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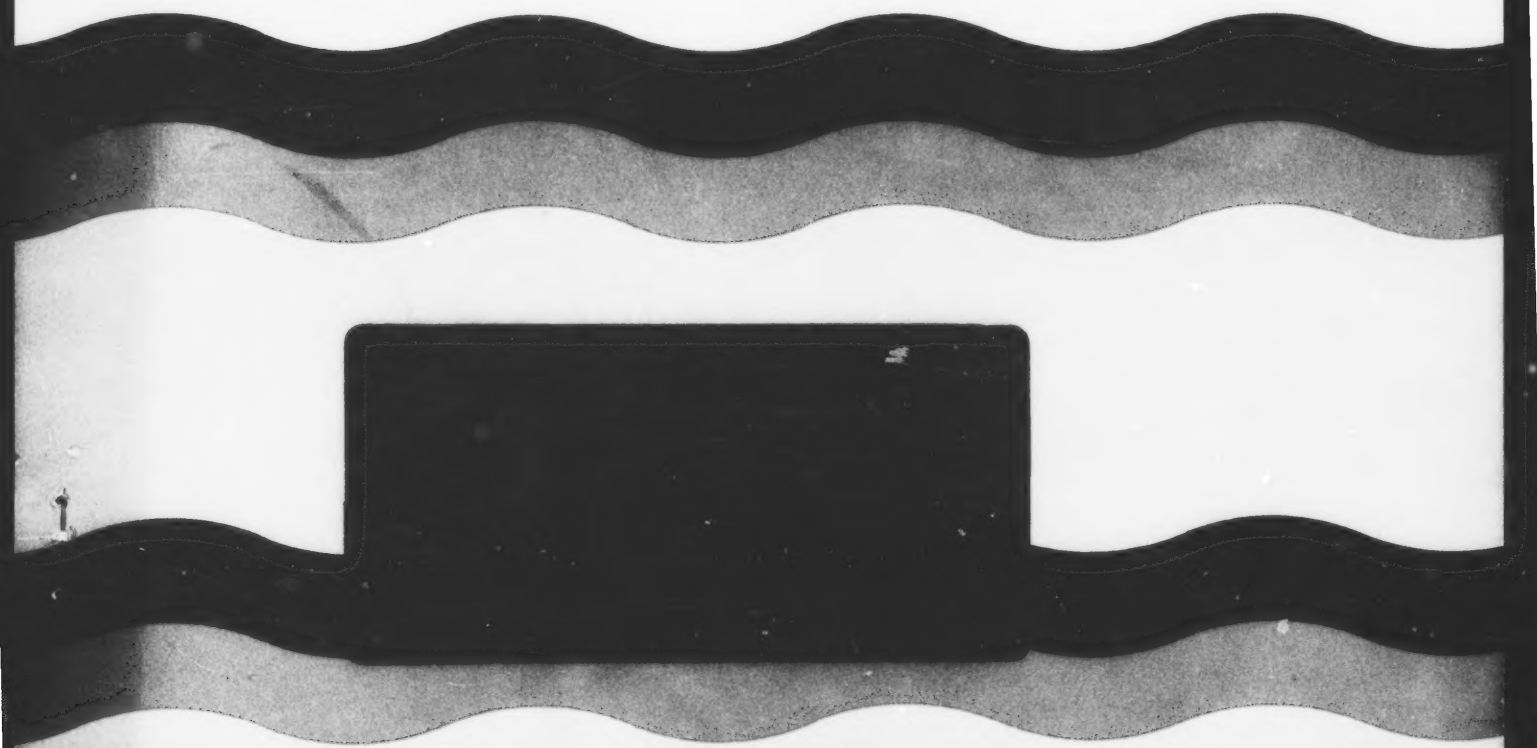
Marine Casualty Investigations

Enquêtes sur les accidents maritimes



Canada

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FISHING VESSELS

Summaries of Reports of Investigations
into Marine Casualties and Accidents
Aboard Ships

Issue No. 8 August 1989

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Summaries of Fishing Vessel Marine Casualties and Accidents

This publication summarizes the Reports of Investigation into marine casualties and/or marine accidents involving fishing vessels which were investigated by the Marine Casualty Investigations Division of Transport Canada and is published three times a year. There is another publication covering commercial vessels and other craft.

Note:

1. A glossary of terms and abbreviations used can be found at the end of this publication.

2. Unless stated otherwise, all times mentioned in this publication are local times.

3. Unless stated otherwise, all Regulations referred to in this publication are made pursuant to the Canada Shipping Act.

4. Unless stated otherwise, all vessels referred to in this publication are Canadian.

The full report of the summaries contained herein may be obtained by writing to:

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Their contents may be deficient and misleading if used in any other process and are not to be used or admitted in evidence in any legal proceedings, either civil or criminal, arising out of any casualty described therein. The statements, opinions and findings in the reports and summaries are those of the Marine Casualty Investigations Division only and do not constitute admissions made by or on behalf of Her Majesty the Queen in right of Canada.

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"FRANK H. BROWN"/"ALEUTIAN DAWN"

Collision in Seaforth Channel, B.C., May 20, 1988.

Summary

The "FRANK H. BROWN" is a tanker/container vessel of 8,040 gross tons, custom built to trade between Vancouver, B.C., and Skagway, Alaska, and registered in Vancouver, B.C. The "ALEUTIAN DAWN" is a well equipped, well found, 80 gross ton seine-net fishing vessel registered in Juneau and which fishes primarily in Alaskan waters.

Shortly after midnight on May 20, 1988, the two vessels were approaching one another in Seaforth Channel in the Inner Passage; the "FRANK H. BROWN" southbound from Ketchikan to Vancouver with containerized freight and the "ALEUTIAN DAWN", in company with another fishing vessel, the "PISCES", repositioning after wintering in Bellingham, Washington. The "FRANK H. BROWN" was participating in the VTS traffic scheme and the "ALEUTIAN DAWN" was not. Weather conditions were fine and clear in the sheltered waters of Seaforth Channel and the vessels detected one another by sight and by radar at between 5 to 6 miles.

Differing testimony on the part of both vessels makes it impossible to reconstruct the exact tracks followed by each vessel or to be certain whether the "ALEUTIAN DAWN" passed to the north or south of Dall Rocks and whether the "FRANK H. BROWN" made a course alteration at Idol Point. However, the "ALEUTIAN DAWN" altered course to starboard to the north side of the channel, for a port-to-port passing and the "FRANK H. BROWN" altered course to port, to the north side of the channel, to indicate that she required to make a wide approach to Dall Rocks. Then, at 0106, despite the "FRANK H. BROWN" sounding a warning signal and last-minute evasive action by both vessels, they collided. After exchanging particulars, both vessels were able to proceed, the damaged "ALEUTIAN DAWN" escorted by the "PISCES".

Findings

On May 20, 1988, the Canadian tanker/container vessel "FRANK H. BROWN" was in collision with the American fishing vessel "ALEUTIAN DAWN" during fine and clear weather conditions in the sheltered waters of Seaforth Channel, B.C. due to the alter course actions of both vessels, in effect, negating each other. The fibreglass bow section of the "ALEUTIAN DAWN" sustained extensive damage when the small fishing vessel struck the starboard bow of the steel constructed "FRANK H. BROWN".

In view of the conflicting evidence regarding the aspects of the two vessels, but considering that they were approaching each other either in line or nearly in line, or in a crossing situation with the "ALEUTIAN DAWN" on the "FRANK H. BROWN"'s starboard side, it would appear that the following factors contributed to the collision:

Both vessels

- neither vessel used or attempted to use the VHF R/T;
- each vessel altered course in small increments thus not making her intentions readily apparent to the other vessel, and
- both vessels maintained full service speed until collision was inevitable.

"FRANK H. BROWN"

- altered course to port in a head-on situation or, alternatively, did not take the preferred action in a crossing situation;
- did not keep to the starboard side of the channel or indicate her intentions by available methods, and
- acted on assumptions based on scanty information.

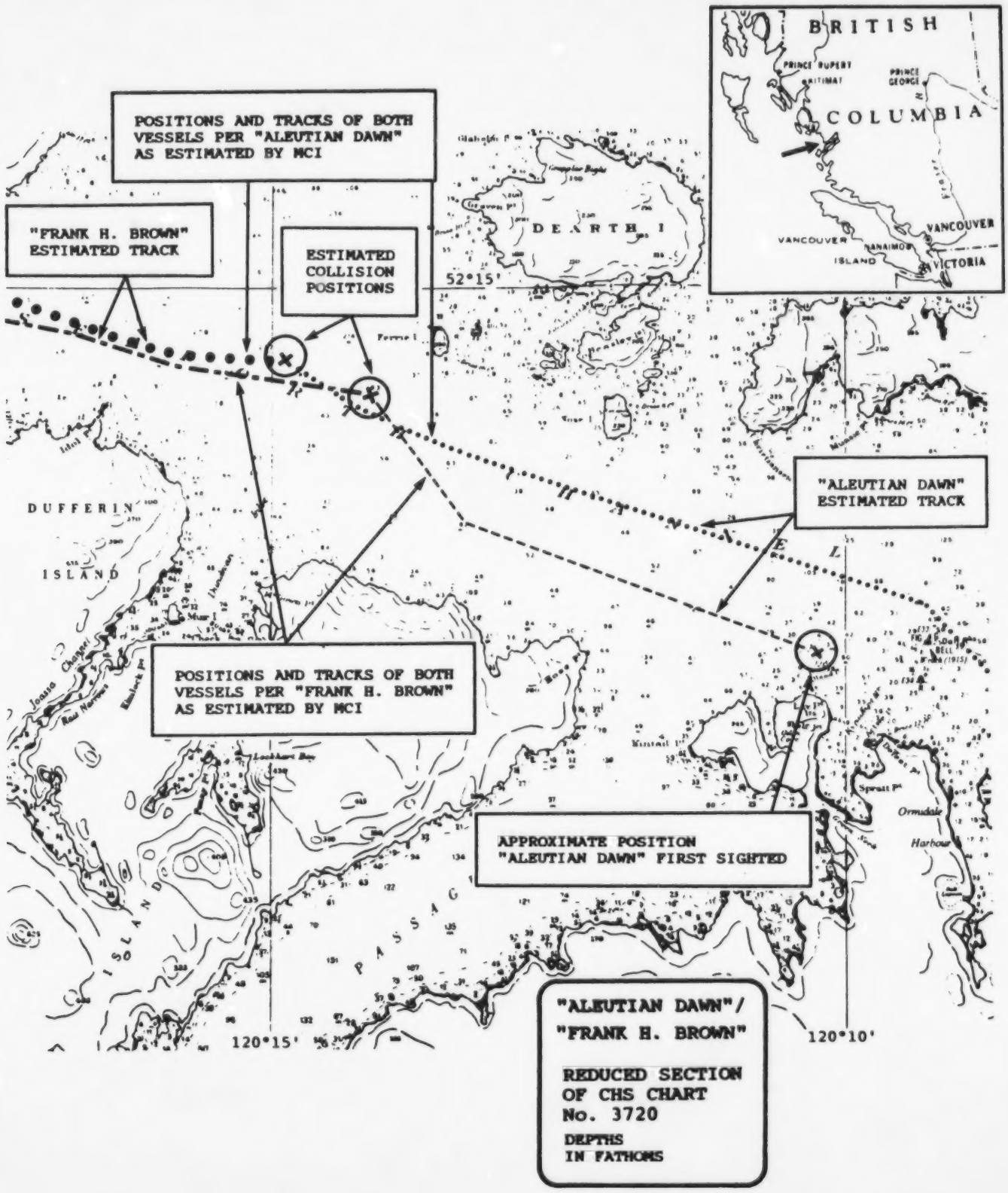
"ALEUTIAN DAWN"

- rather than using the official charts of the area, was navigating using a marine atlas, which did not have the detail to enable the vessel to sail with confidence close inshore, and
- was reportedly sailing with her floodlights on.

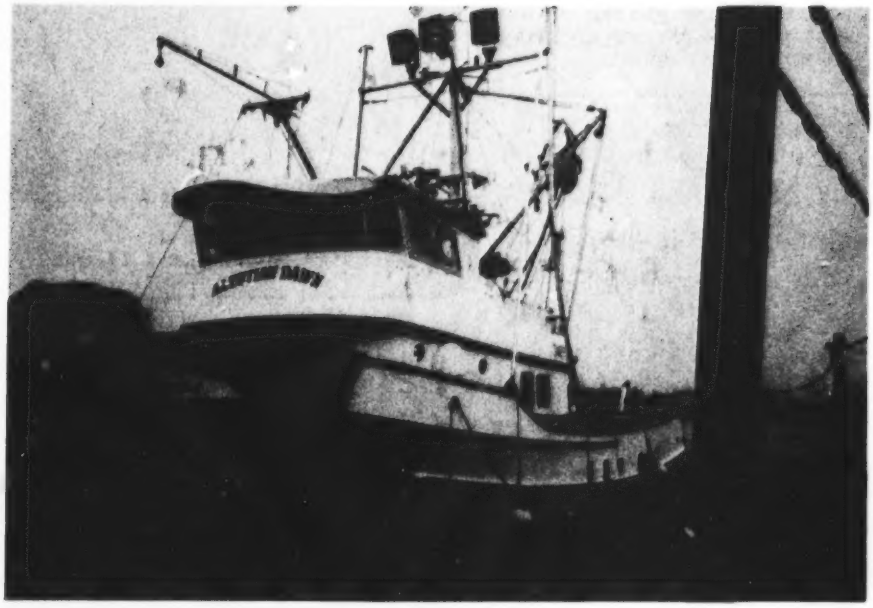
Other Findings

The "ALEUTIAN DAWN" was not guarding the VHF R/T channel 16 and/or 11, nor was it required by regulations; however the guarding of such channels is deemed to be good seamanship.

The "PISCES", from the appearance of her navigation lights, was keeping to the south shore, and her actions are not considered contributory to this casualty.


POSITIONS AND TRACKS OF BOTH VESSELS PER "ALEUTIAN DAWN" AS ESTIMATED BY MCI
"FRANK H. BROWN" ESTIMATED TRACK
ESTIMATED COLLISION POSITIONS
"ALEUTIAN DAWN" ESTIMATED TRACK
POSITIONS AND TRACKS OF BOTH VESSELS PER "FRANK H. BROWN" AS ESTIMATED BY MCI
APPROXIMATE POSITION "ALEUTIAN DAWN" FIRST SIGHTED
"ALEUTIAN DAWN"/ "FRANK H. BROWN"
REDUCED SECTION OF CHS CHART No. 3720
DEPTHS IN FATHOMS
BRITISH COLUMBIA
VANCOUVER ISLAND
DEARTH I
DUFFERIN ISLAND
52°15'
120°15'
120°10'

"FRANK H. BROWN"



"ALEUTIAN DAWN"

"TILLYAK"

Death of a crane operator, Wood Bay, B.C., June 29, 1988.

Summary

The loading/unloading operations of the 106 gross ton, non-self-propelled steel barge "TILLYAK" is generally performed by the crew of the tug boat that tows the barge to site. As an unmanned barge, she is not subject to inspection by the Ship Safety Branch, Canadian Coast Guard. However, the mobile crane (cargo gear) on board, which was used in the loading/unloading of the vessel, was required to be inspected and tested in accordance with the Tackle Regulations, made pursuant to the Canada Shipping Act, but such compliance had not been undertaken.

On June 29, 1988, in good weather and calm waters, the "TILLYAK" was secured alongside the fish pens. The process of raising the fish pen net which was fouled on the sea-bed commenced at about 1155 with two fish farm employees assisting the two persons from the towboat. The fouled net, approximately 15 m (50 ft) square by 15 m (50 ft) deep, had previously been gathered together and was hanging in the water at the centre walkway side of the pen; the weight of the fouled net was not known.

The crane boom was lowered and extended to permit the lifting hook to be attached to a sling on the net and, while the hoist cable was run out, the boom was then retracted and raised to a position for lifting the net. When the boom head was in position, the net was cut loose from the centre walkway and it was allowed to drift over to the outside walkway. The net was then raised by the crane but, due to the length of the sling, there was only approximately 6.5 m (20 ft) out of the water when the hook reached the boom head. The net was held on the crane and lashed to the barge while a second sling was secured to the net just above the water. The hook was then lowered to take the weight on the second sling and the lashing to the barge released.

At about 1210, when the crane had raised the net approximately a further 9 m (30 ft) out of the sea, the crane overbalanced and fell overboard into a depth of water of some 33 m (110 ft) with the operator inside the cab. A warning was shouted to the crane operator by his co-workers when it had been observed that the crane's outriggers had lifted slightly from the deck of the barge and, reportedly, the operator appeared to speed up the crane motor in an attempt to lower the net and retract the boom.

An initial search for the crane operator was unsuccessful and after the mobile crane was raised from the

water on June 30, his body which was found entanged in the net, was recovered. An autopsy showed that the cause of death was due to drowning.

A cost estimate for loss of the crane was $16,000 with a replacement cost of approximately $50,000. The fish farm estimated costs of $250,000 for the salmon which escaped when the side of the pen was demolished and $30,000 for damage to the installation.

Findings

On June 29, 1988, a mobile crane on board the barge "TILLYAK" was being used to raise a fouled fish pen net that was apparently of greater weight than its appropriate safe working load and the crane overbalanced and fell overboard resulting in the death of the crane operator by drowning.

It is considered that the following conditions contributed to the accident:

- neither the actual weight nor a reasonable estimate of the weight of the fouled fish net was known;

- the crane was not equipped with either a load limiting device or a load weight indicator, and under the Tackle Regulations none is required;

- using the crane boom to the side of the wheeled vehicle caused the vehicle to be more susceptible to overbalancing than would have been the case if the boom had been used over the front of the vehicle; and

- using the crane boom over the side of the barge caused the wheeled vehicle to be more susceptible to overbalancing, due to the heeling of the barge, than would have been the case if the boom had been used over the forward or after end of the barge.

Other Findings

The operator was unable to quickly release the load due to the mechanical/hydraulic design of the crane, including the multiple reeved arrangement of the hoist cable.

The personnel engaged in the operation had a limited knowledge of, and experience in, such work and were unable to fully apply the correct procedures or recognize the many hazards involved.

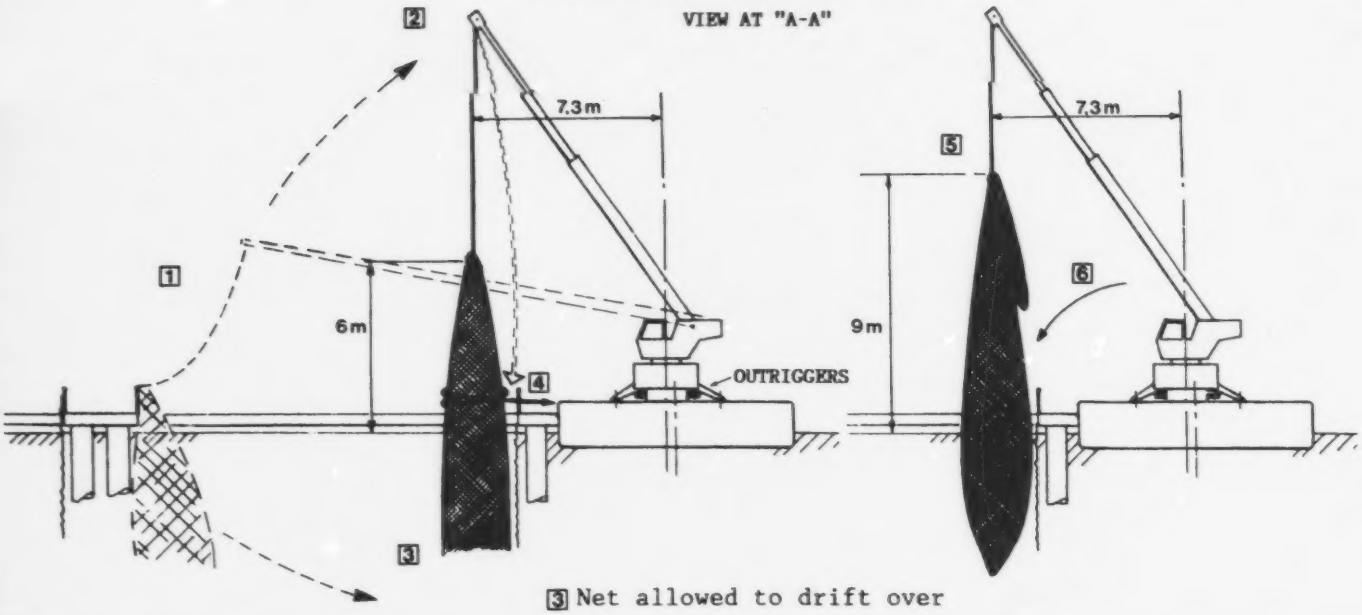
The mobile crane was provided with data and a diagram indicating the recommended lifting capacities for use on shore, to the side and over the front of the vehicle, at the appropriate boom lengths and radii.

The mobile crane had not been inspected and tested in accordance with the Tackle Regulations, nor had safe working loads (lifting capacities) been assigned for the use of the crane on board a ship.

The mobile crane had been designed for general industrial use on shore and the Safe Working Practices Regulations specify that no machinery or equipment on board a ship shall be used for any purpose other than the purpose for which it is intended to be used.

The accident was not reported to the appropriate authorities as required by the Shipping Casualties Reporting Regulations.

PROCESS OF CLEARING A FOULED FISH-PEN NET



1 Original positions of crane boom and fouled fish-pen net

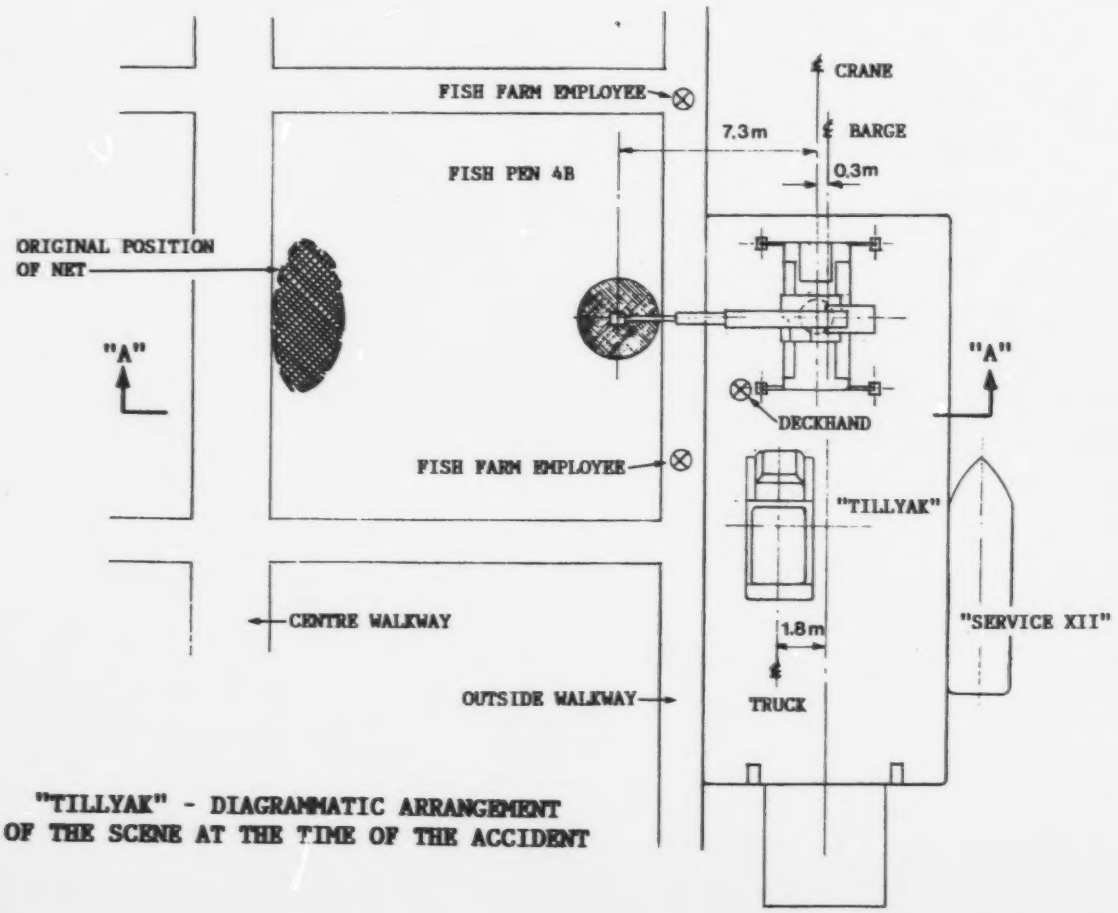
2 Boom retracted and raised

3 Net allowed to drift over

4 Net lashed to barge to reposition sling

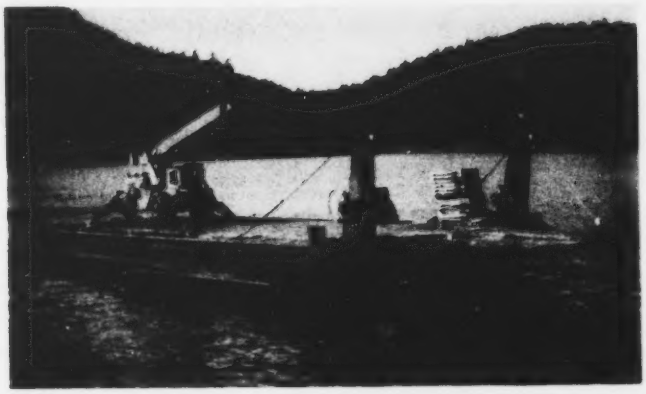
5 Hook lowered to second sling

6 Crane overbalanced



"TILLYAK" - DIAGRAMMATIC ARRANGEMENT OF THE SCENE AT THE TIME OF THE ACCIDENT

"TILLYAK"



"TILLYAK" at anchor with similar mobile crane on board.

"TILLYAK" à l'ancre ayant une grue mobile similaire à bord.

Showing mobile crane after retrieval from the waters of Wood Bay

Vue de la grue mobile après avoir été pêchée des eaux de Wood Bay

"FUNDY MISTRESS"/"HOLLY ANN II"

Collision in Grand Passage, N.S., July 13, 1988.

Summary

The 57 gross ton purse seiner "FUNDY MISTRESS" was northbound in Grand Passage, N.S. on July 13, 1988 in light SW'ly winds and some 15 m visibility in dense fog. The bridge was manned by the skipper in charge of navigation, the mate at the wheel and a deck-hand maintaining a look-out. She entered the passage on a heading of 040°(M), stemming an ebb tide of about 3 knots, giving her a speed over the ground of 7 knots. She kept to the centre of the passage when a radar target of a vessel, later identified to be the "HOLLY ANN II", was initially observed bearing 20° to port, distant 1 mile and subsequently 0.5 mile. Course was initially altered 10° to starboard and subsequently with the bearing steady, course was altered to 090°(M). A few minutes later both vessels were involved in a collision.

"HOLLY ANN II"

The 65 gross ton stern trawler "HOLLY ANN II" was southbound Grand Passage, July 13, 1988 with the tide astern. The skipper was alone on the bridge with the vessel on hand-steering; the course was 185°(M) and her speed over the ground was some 11 knots. A radar target, later identified to be the "FUNDY MISTRESS", was observed about 15° on the starboard bow, 0.5 mile distant. Two unsuccessful attempts were made to contact the "FUNDY MISTRESS" on VHF R/T and the speed was reduce to 9 knots over the ground. When the target was less than 0.25 mile, it was lost in the clutter on the radar aboard the "HOLLY ANN II", the latter's speed then was further reduced to some 3-4 knots over the ground. The vessel fell off to port when she lost steerageway and the engine was put to half speed astern but collision occurred.

Events following the collision

Immediately after a collision, both vessels separated and after exchanging information on VHF R/T both vessels eventually proceeded to Westport. Damage to the "FUNDY MISTRESS" consisted of misaligned wheel-house and fractured bulkheads assessed at $60,000; damage to "HOLLY ANN II" was minor and assessed at $500.

Findings

The "HOLLY ANN II" and the "FUNDY MISTRESS" were involved in a collision in reduced visibility due to dense fog but otherwise good weather condition while navigating the narrow section of the Grand Passage which was subjected to

relatively strong tidal streams.

It would appear that the contributing factors to the collision were as follows:

Both Vessels

- the use of channel 9 by the "HOLLY ANN II" for transmission and the monitoring of channel 71 by the "FUNDY MISTRESS" resulted in no communication being established to effect safe passage;

- both vessels met on the narrow section of the Grand Passage in reduced visibility and in relatively strong tidal conditions.

"HOLLY ANN II"

- the skipper had held that responsibility for only two months;

- the bridge was manned by a single person performing the duties of a look-out, helmsman and the navigator which included collision avoidance procedures;

- the necessity to reduce speed and stop the engines when collision was imminent resulted in the vessel loosing steerageway and falling off to port;

"FUNDY MISTRESS"

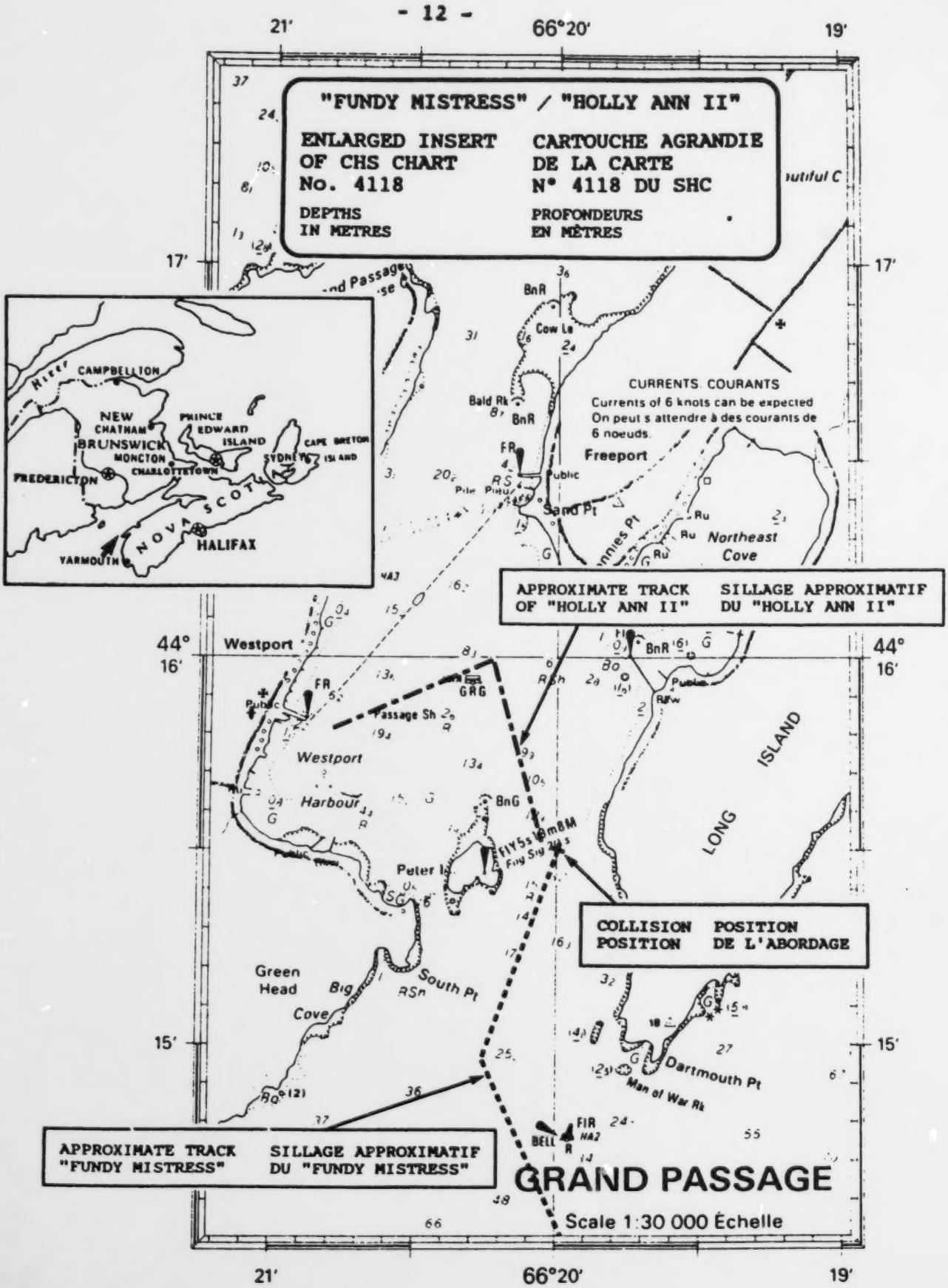
- having established the presence of the outward bound vessel, approaching the narrow section of the passage, the "HOLLY ANN II", upon entering this did not keep to the starboard side of the channel;

- being a 'giveway' vessel, the "FUNDY MISTRESS" neither 'held off' nor did she keep out of the way of the "HOLLY ANN II" nor did she attempt to establish radio contact to arrange safe passage.

Other Findings

Neither vessel sounded the fog signals.

The "FUNDY MISTRESS" did not have the required Ship Station Radio License.


"FUNDY MISTRESS" / "HOLLY ANN II"
ENLARGED INSERT OF CHS CHART No. 4118
CARTOUCHE AGRANDIE DE LA CARTE N° 4118 DU SHC
DEPTHS IN METRES
PROFONDEURS EN MÈTRES
21'
66°20'
19'
17'
44° 16'
15'
CAMPBELLTON
NEW BRUNSWICK
CHATHAM
MONCTON
PRINCE EDWARD ISLAND
CHARLOTTETOWN
SYDNEY
CAPE BRETON ISLAND
FREDERICTON
NOVA SCOTIA
HALIFAX
YARMOUTH
CURRENTS. COURANTS
Currents of 6 knots can be expected
On peut s attendre à des courants de 6 noeuds.
Freeport
Sand Pt
Northeast Cove
Westport
Harbour
Peter I.
Green Head
Big Cove
South Pt
LONG ISLAND
Dartmouth Pt
Man of War Rk
APPROXIMATE TRACK OF "HOLLY ANN II"
SILLAGE APPROXIMATIF DU "HOLLY ANN II"
COLLISION POSITION
POSITION DE L'ABORDAGE
APPROXIMATE TRACK "FUNDY MISTRESS"
SILLAGE APPROXIMATIF DU "FUNDY MISTRESS"
GRAND PASSAGE
Scale 1:30 000 Échelle

"FUNDY MISTRESS"

"HOLLY ANN II"

"NP 397"

Explosion and subsequent fire while alongside a fuel float at Port Edward, B.C., July 18, 1988.

Summary

The 9 gross ton gillnetter of fibreglass construction "NP 397" was of conventional design with a deck-house incorporating the wheel-house and a galley above the engine compartment; an accommodation in the forecastle immediately forward of the steering and engine control station; and the fish hold and gillnet drum in the cockpit aft of amidships.

Two gasoline fuel storage tanks of about 455 L capacity each were installed at the ship's sides, port and starboard in the engine compartment. The main propulsion engine, two wet-cell batteries and an automatic electrically operated bilge pump were located under the floorboards of the wheel-house/galley. Reportedly, the vessel was equipped with bilge space mechanical ventilation and vapour detection systems and two dry chemical fire extinguishers, the engine was fitted with a carburettor flame arrestor, and there was no propane or other liquified gas on board. Being a vessel of not more than 15 gross tons, the "NP 397" was not subject to inspection by the Ship Safety Branch, Canadian Coast Guard. The most recent survey for insurance purposes was carried out on July 4, 1986, when the vessel was declared to have been in a good seaworthy condition.

At about 1600, July 18, 1988, having returned to port from fishing grounds in the Skeena River, the "NP 397" went alongside the Esso fuel float in Porpoise Harbour, Port Edward, B.C. to refuel. On board were the operator, his wife and infant son. The weather was fine and clear and the sea was calm. After shutting down the engine and verifying that no naked lights were on board, the operator topped up the fuel tanks through their individual filling pipes located in the deck walkways on each side of the deck-house. The operator then washed minor spillages of gasoline from the walkways and deck of the vessel using a shore hose.

At about 1630, the operator went ashore to settle his account, leaving his wife in the galley and his son, asleep and wrapped in a comforter, in the forecastle space. Within a very few minutes thereafter an explosion occurred on board the vessel, starting a fire, shattering the deck-house, and projecting some parts of the deck-house on to the fuel float. The operator dashed back aboard the vessel, entered the forecastle space through the hatch in the forward trunk, and rescued his son. He then assisted his wife who, burned and dazed, had crawled out on to the after deck following the

explosion. She suffered second and third degree burns to her arms and face but the child was not injured. The fuel float attendant summoned assistance and the sound of explosion alerted other vessels in the vicinity. One crew member from "LAUREL ANN", secured on the opposite side to the float received minor cuts from flying glass.

The vessel was towed away from the wharf and the fire was eventually extinguished at 1700 with assistance from other vessels and local Volunteer Fire Department.

The precarious position of the vessel precluded examination of the fuel tanks and the remains of the associated piping and the mechanical ventilation and vapour detection systems. However a fracture in the brass fitting on the gasoline tank ventilation line was observed. The operator was of the opinion that an electrical spark may have occurred due to a loose battery terminal connector.

The vessel was virtually gutted over her entire length forward of the cockpit at the stern and was declared a total loss with an estimated value of $40,800 in 1986.

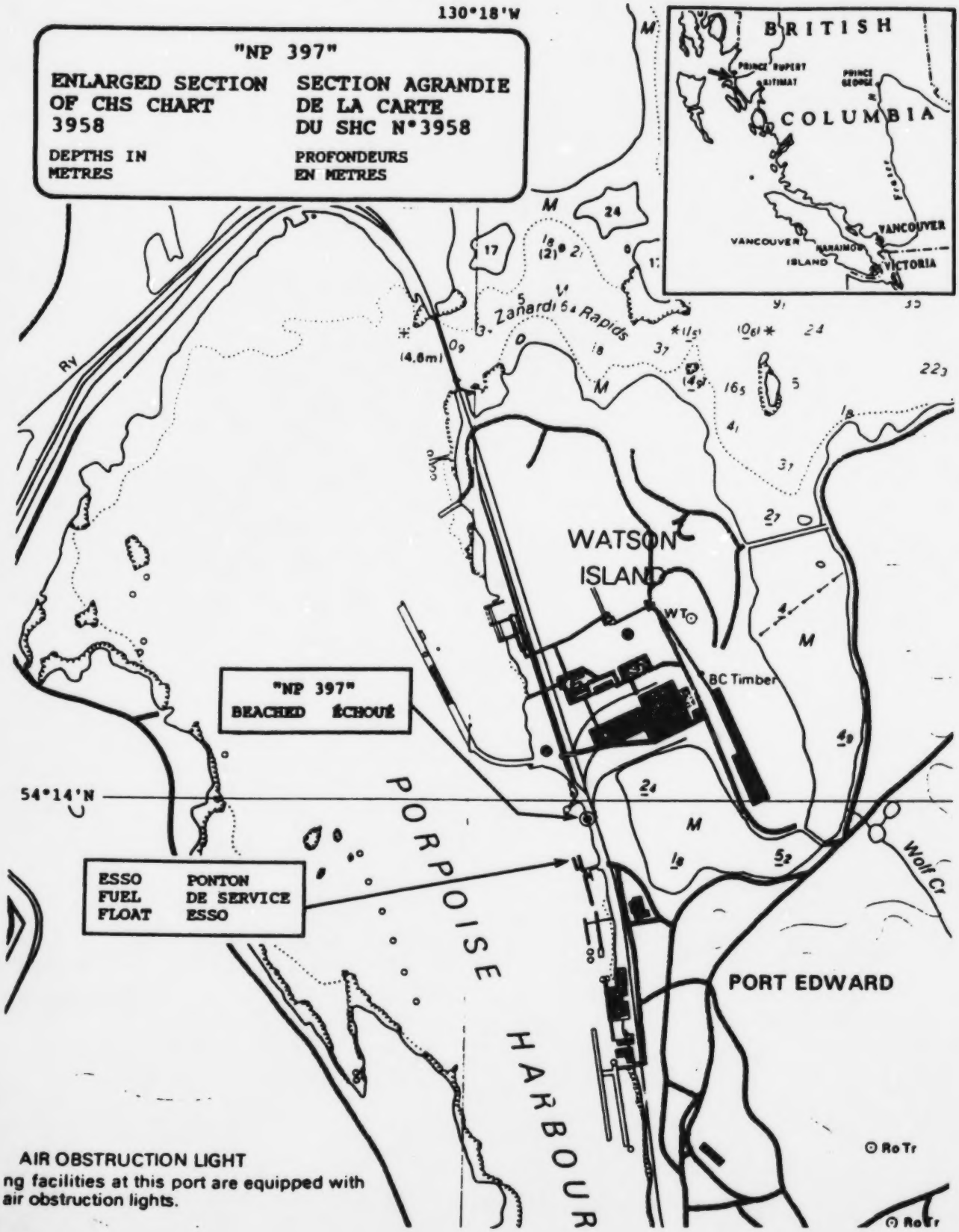
Findings

Although the actual cause is unknown, it would appear that the explosion aboard the "NP 397" on July 18, 1988, was accidental and the result of an unobserved leakage of gasoline or gasoline vapour into the bilge spaces of the vessel and the subsequent ignition of gasoline vapour by an electrical spark.

It is considered that the following factors contributed to this casualty:

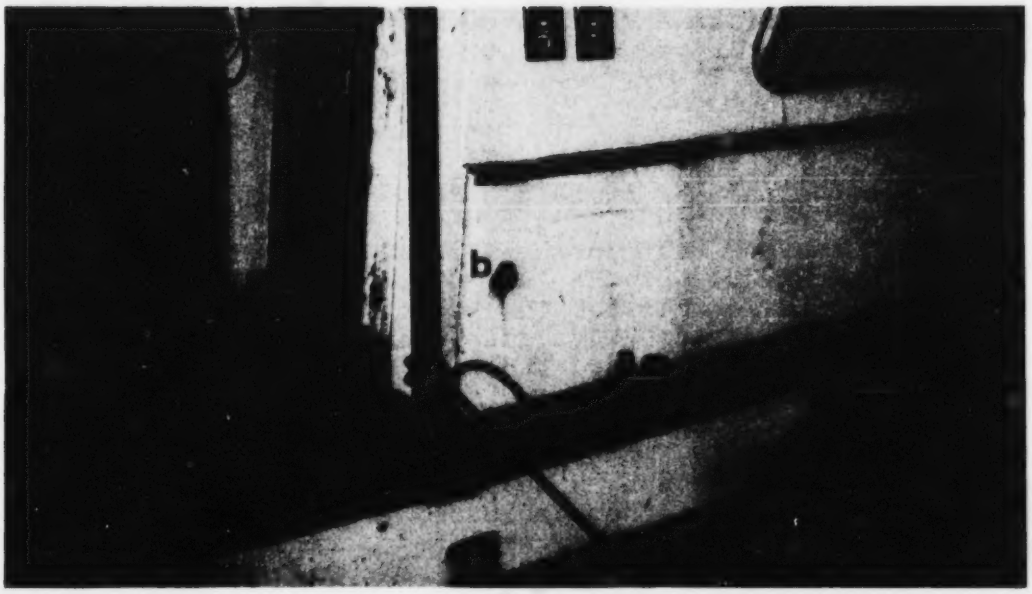
- the fracture in the brass fitting on the gasoline tank ventilation line; and

- the failure to ensure that all electrically operated equipment (e.g., automatic bilge pumps) was disconnected from the power supply.


130°18'W
"NP 397"
ENLARGED SECTION OF CHS CHART 3958
SECTION AGRANDIE DE LA CARTE DU SHC N°3958
DEPTHS IN METRES
PROFONDEURS EN METRES
BRITISH COLUMBIA
PRINCE RUPERT
PRINCE GEORGE
VANCOUVER
VANCOUVER ISLAND
NANAIMO
VICTORIA
Zanardi Rapids
(4.8m)
WATSON ISLAND
WT
BC Timber
"NP 397"
BEACHED ÉCHOUÉ
54°14'N
ESSO FUEL FLOAT
PONTON DE SERVICE ESSO
PORPOISE HARBOUR
Wolf Cr
PORT EDWARD
Ro Tr
AIR OBSTRUCTION LIGHT
ng facilities at this port are equipped with air obstruction lights.

View on inside surface of deck-house section showing (a) filling pipe corroded below deck and (b) old fracture in ventilation pipe fitting.

Vue de la surface intérieur du rouf montrant (a) tuyeau de remplissage corrodé sous le pont et (b) vieille fissure dans le raccord du tuyeau de ventilation.



Locations of (a) filling pipe and (b) ventilation pipe fitting for gasoline fuel tanks, on vessel similar to the "NP 397".

Vue d'emplacement (a) du tuyeau de remplissage et (b) de l'armature du tuyeau de ventilation pour les réservoirs à combustible sur un bateau semblable au "NP 397".

"TROCADERO"/BARGE "PT 1"/"WESTMINSTER HYACK"

Collision in New Westminster Harbour, B.C., July 23, 1988.

Summary

TROCADERO

After departing Port Hardy, B.C., July 22, 1988 and following a 3-hour rest at Port Kells, B.C., the 9 gross ton Canadian fishing vessel "TROCADERO" with her operator arrived and docked at Westminster Tug Float at 2100, July 23. The operator then consumed 2-3 beers and after being joined by 2 guests, the vessel departed at 2200 heading for the New Westminster Railway Bridge span located some 1500 m to the east. As the operator was contacting the bridge-master on VHF R/T to request the opening of the swing bridge, one of the guests warned him that a barge was very close to them. A few minutes later, she collided with the barge's port bow and the impact heeled her to port but fortunately the "TROCADERO" was able to back away. She then proceeded and secured alongside an oil barge. She sustained damage to her starboard bulwark and the starboard stabilizer pole.

The "TROCADERO" was subsequently visited by the local police who, based on the breathalyzer results, charged the operator under sections 253 (a) of the Criminal Code with having care and control of a vessel while his ability was impaired, and section 253 (b) for operating a vessel with a blood alcohol concentration exceeding 80 mg of alcohol in 100 ml of blood. He was later brought to trial where both counts were dismissed.

"WESTMINSTER HYACK"/BARGE "PT 1"

After picking up the 757 gross ton barge "PT 1" at the RT Annacis mooring, the upbound 62 gross ton tug "WESTMINSTER HYACK" headed for the New Westminster Railway Bridge to pass through the north passage of the swing span. When the tug was some 100 m off the Westminster Tug Float, a vessel later identified to be the "TROCADERO", displaying her navigation lights, was noticed departing the float. When the "TROCADERO" was some 90 m distant on the tug's port bow, a searchlight was directed to attract the attention of the "TROCADERO". Reportedly, the "TROCADERO" was observed altering course to port, to run a near-parallel course. As the lateral distance between them decreased to some 18 m, the tug's speed was reduced from 6.5 knots to 4 knots and her course altered 20° to starboard. A minute later, the "TROCADERO" appeared to slow down, allowing the tug to draw ahead. The "TROCADERO" then suddenly altered course to starboard between the tug and the barge. The deck-hand ran aft and managed to attract the attention of the persons on

the stern of the "TROCADERO" who were then observed to be communicating with someone in the wheel-house. The tug's engines were then put in neutral and the towline slackened. A few seconds later at 2213, the barge and the "TROCADERO" were involved in a collision. The barge did not sustain any damage.

Findings

On the evening of July 23, 1988, in good weather conditions and with good visibility, the small fishing vessel "TROCADERO" was involved in a collision with the barge "PT 1" under tow of the "WESTMINSTER HYACK" in New Westminster Harbour.

It would appear that the following factors contributed to the collision:

- the operator of the "TROCADERO" was fatigued and had consumed alcohol;

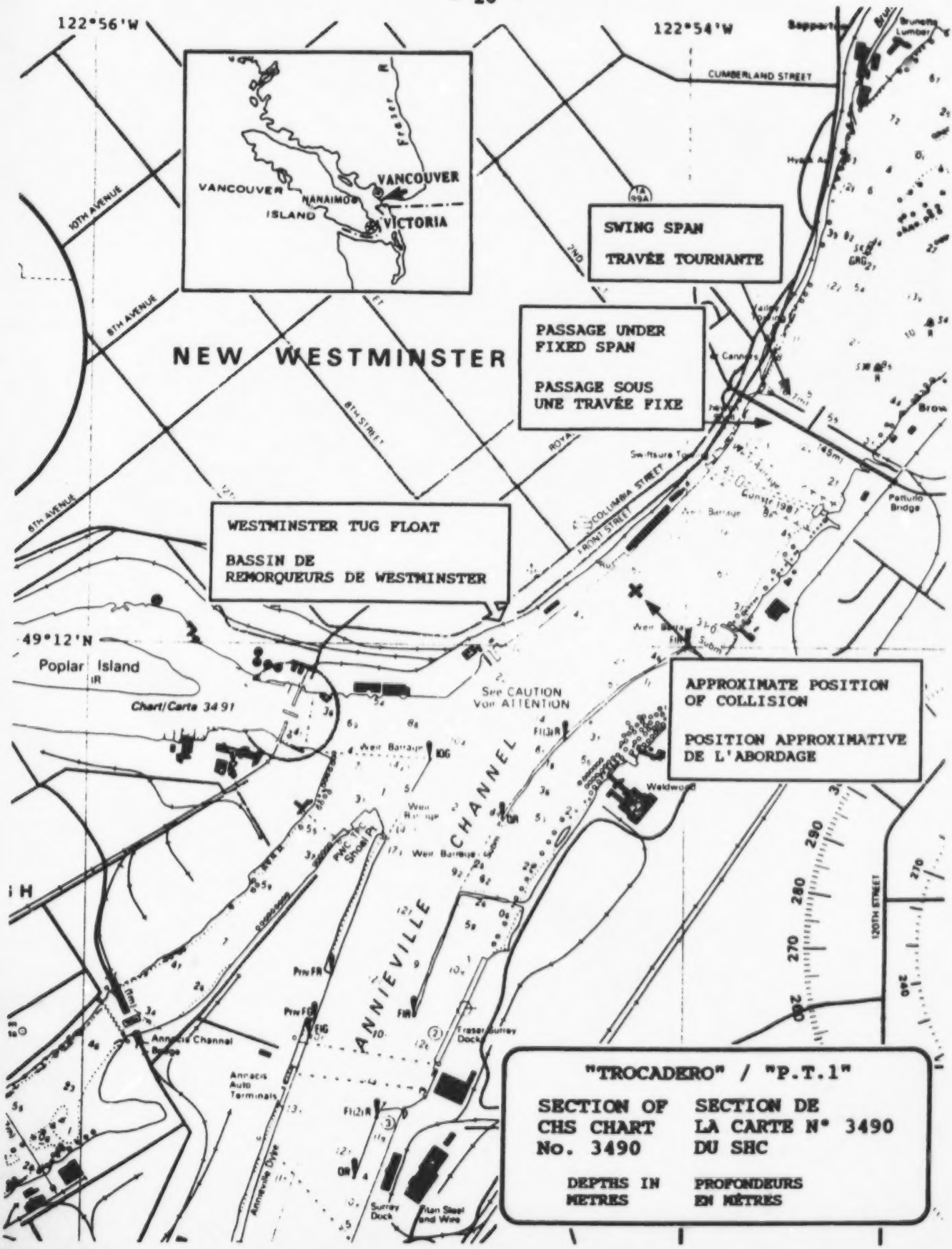
- the operator, the sole crewman aboard the "TROCADERO" was engaged in a number of tasks including steering, navigation and using VHF radio to request opening of the bridge;

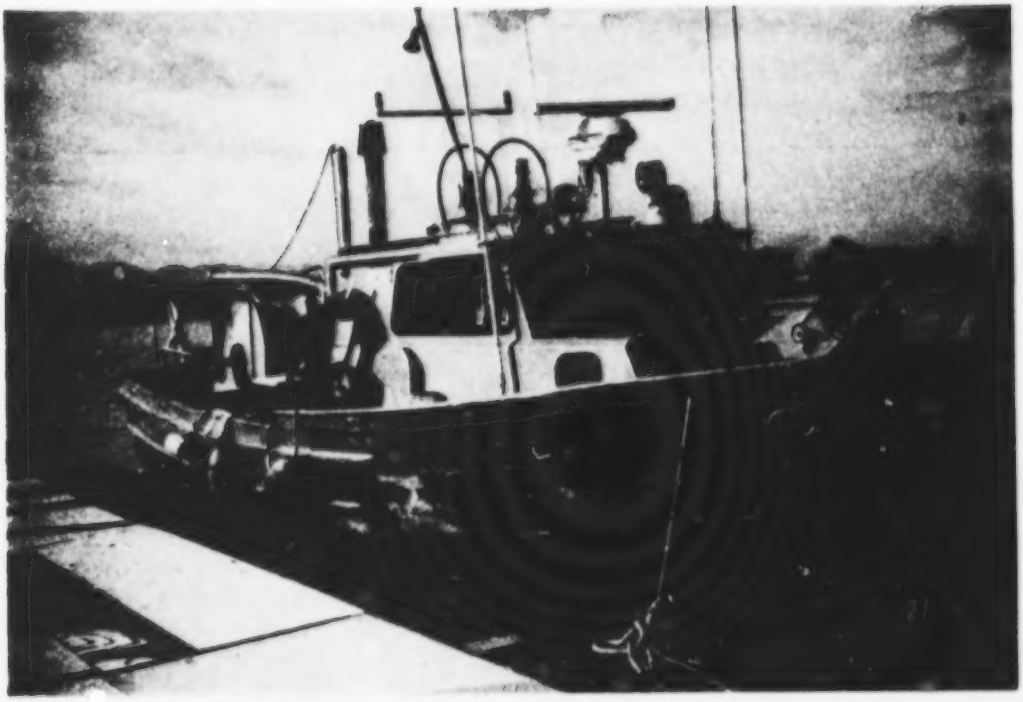
- the "TROCADERO" did not maintain a proper look-out;

- the "TROCADERO" did not keep out of the way of the tug and barge which was on her starboard side in a crossing situation;

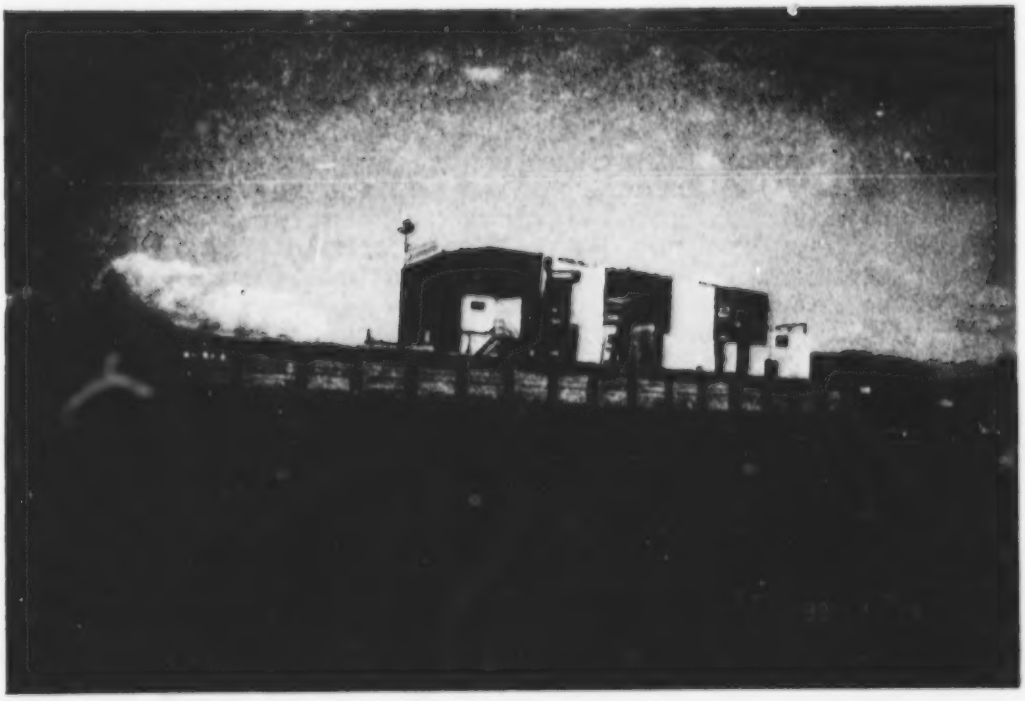
- while the "WESTMINSTER HYACK" directed a beam of her searchlight to attract the attention of the "TROCADERO", neither vessel used any sound signals; and

- despite the visual warning signal from the "WESTMINISTER HYACK", the "TROCADERO" did not determine if risk of collision existed.


122°56'W
122°54'W
VANCOUVER
NANAIMO
ISLAND
VICTORIA
FRASER R.
10TH AVENUE
8TH AVENUE
6TH AVENUE
NEW WESTMINSTER
8TH STREET
CUMBERLAND STREET
2ND
SWING SPAN
TRAVÉE TOURNANTE
PASSAGE UNDER FIXED SPAN
PASSAGE SOUS UNE TRAVÉE FIXE
WESTMINSTER TUG FLOAT
BASSIN DE REMORQUEURS DE WESTMINSTER
COLUMBIA STREET
FRONT STREET
Pattullo Bridge
49°12'N
Poplar Island
Chart/Carte 3491
See CAUTION
Voir ATTENTION
APPROXIMATE POSITION OF COLLISION
POSITION APPROXIMATIVE DE L'ABORDAGE
Weldwood
ANNIEVILLE CHANNEL
PWC Tug Float
Annacis Channel
Annacis Auto Terminals
Annieville Dyke
Surrey Dock
Fraser Surrey Docks
Stelco Steel and Wire
120TH STREET
"TROCADERO" / "P.T.1"
SECTION OF CHS CHART No. 3490
SECTION DE LA CARTE N° 3490 DU SHC
DEPTHS IN METRES
PROFONDEURS EN MÈTRES



"TROCADERO"



"P.T.1"

"SEACRAFT"/"LAURIE ZON"

Collision in Belle Isle Strait, Nfld., July 30, 1988.

Summary

"LAURIE ZON"

The 22 gross ton wooden dragger "LAURIE ZON" was adequately equipped with electronic and navigation equipment but her Steamship Inspection Certificate had expired. She departed L'Anse au Loup, Labrador on July 30, 1988, with a crew of 4, and upon arrival, commenced dragging off Anchor Point. Winds were light SW'ly and foggy with 1-2 cables visibility. The vessel was on hand steering and proceeding in an easterly direction at about 2.5 knots. The deck-hand, who was alone in the wheel-house, observed an echo on the radar of a fast moving target between vessels, known to be fishing and advised the skipper at about 0845. After establishing that the target was on a collision course, the skipper, who had arrived in the wheel-house, unsuccessfully attempted to contact the other vessel, believed to be the "SEACRAFT", on VHF R/T. Soon afterwards, the "SEACRAFT" emerged out of the fog about 2 cables away. The vessel's trawl was slackened and her course altered 90° to port but collision occurred causing substantial damage to the "LAURIE ZON".

"SEACRAFT"

The 86 gross ton dragger "SEACRAFT" is well equipped with electronic and navigation equipment. She departed St. Barbe, Nfld., on July 30, 1988, with a crew of 6. After trawling off Anchor Point for about an hour, she retrieved her nets which had become fouled on the sea-bed and headed towards St. Barbe at about 8 knots. The skipper was alone in the wheel-house and the vessel was on hand-steering. Some 15-20 minutes later, she reportedly had a clear radar screen on 1½ mile range. The skipper then made an inconsequential telephone call at 0840 and when he looked up, he saw the "LAURIE ZON" close by. Both vessels collided and the "SEACRAFT" sustained minor damage.

Events following collision

Both vessels assessed damage and proceeded under their own power to St. Barbe. The estimated cost of repairs was $1,000 for the "SEACRAFT" and $15,000 for the "LAURIE ZON".

Findings

The Canadian fishing vessels "SEACRAFT" and "LAURIE ZON"

collided in Belle Isle Strait during conditions of restricted visibility. At the time of the collision, the "SEACRAFT" was freely underway whilst the "LAURIE ZON" was trawling.

It would appear that the collision was due to the following contributory factors:

The "SEACRAFT"

- was travelling at a speed which may be considered excessive given the 2-cable visibility;
- did not sound the prescribed fog signal for a power-driven vessel underway;
- in conditions of poor visibility, had only one person on watch in the wheel-house, necessitating that that person had the responsibilities of attending to the navigation, the steering and the keeping of a look-out, contrary to the practices of good seamanship;
- did not maintain a proper look-out by sight and hearing;
- did not make proper use of her radar equipment and all available means to establish that risk of collision existed;
- as a consequence of not establishing that risk of collision existed, did not take positive action, in ample time to avoid collision;
- did not keep out of the way of a vessel engaged in fishing; and
- the attention of the skipper was diverted from safe navigation of his vessel when he made an inconsequential radiotelephone call moments before the collision.

The "LAURIE ZON"

- as the stand-on vessel, made a broad alteration of course to port but this action was too late to avoid collision;
- neither sounded the prescribed fog signal for a vessel engaged in fishing nor did she sound the appropriate signal for a course alteration to port;
- in conditions of poor visibility, had only one person on watch in the wheel-house, necessitating that that person had the responsibilities of attending to the

navigation, the steering and the keeping of a look-out, contrary to the practices of good seamanship;

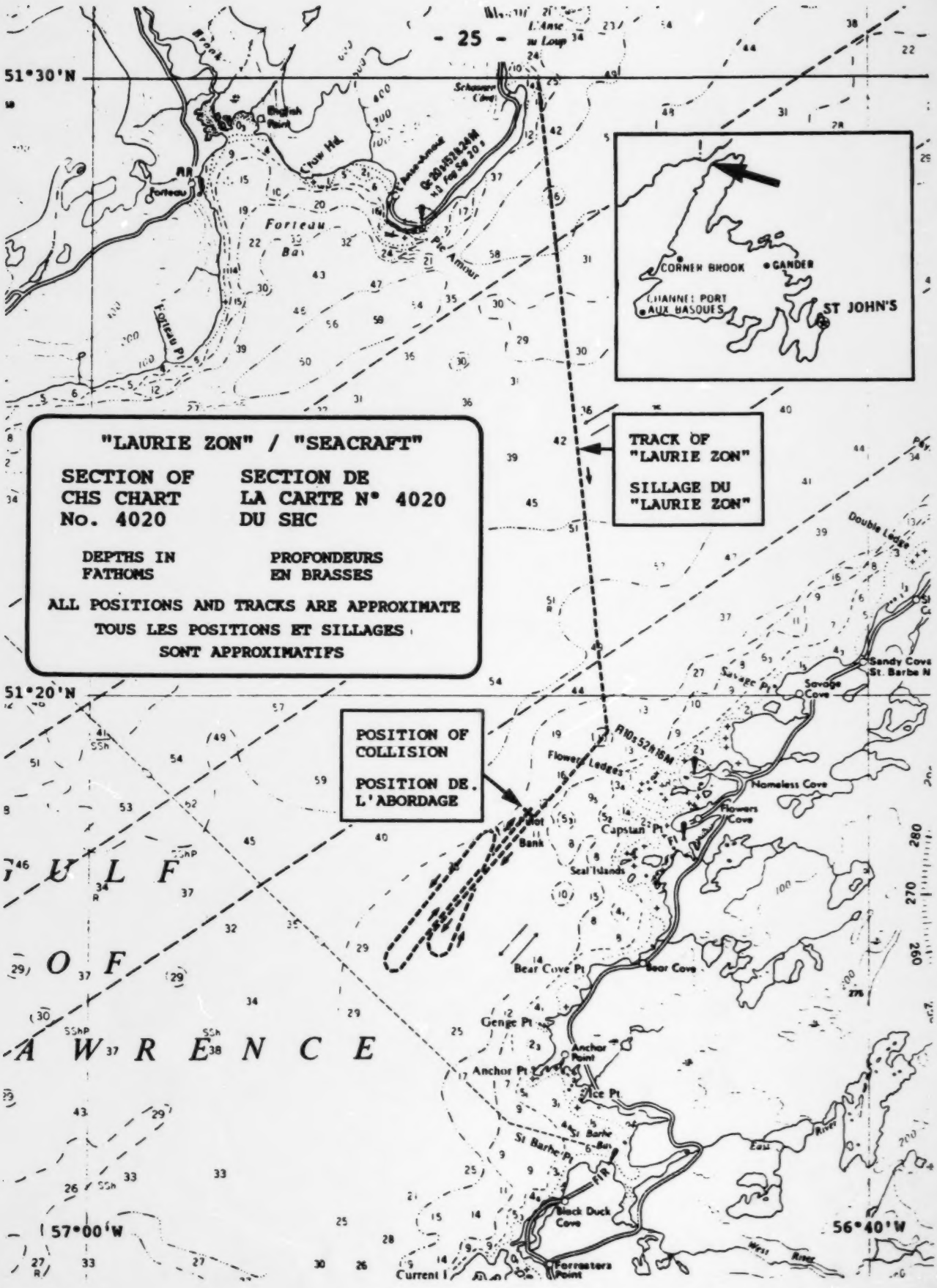
- attempts to raise the "SEACRAFT" on VHF R/T to arrange a safe manoeuvre were unsuccesful; and

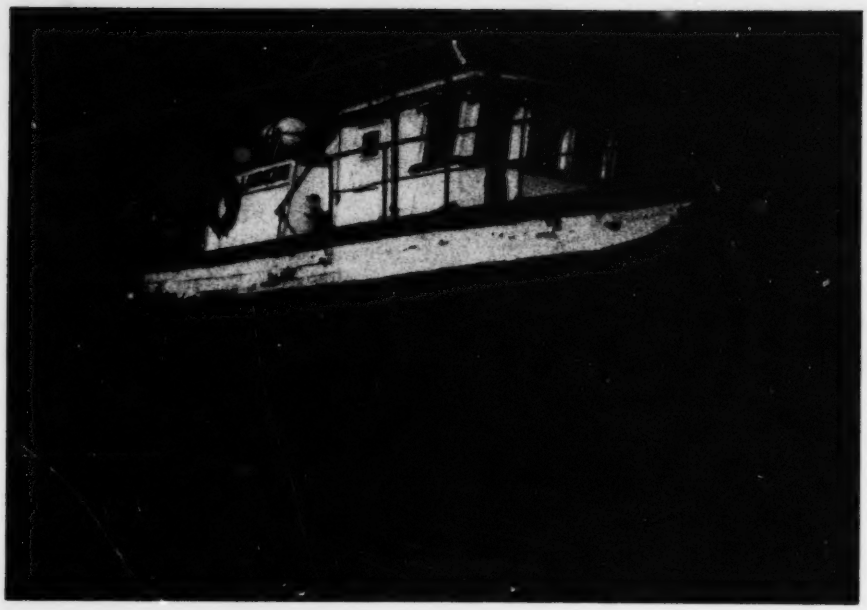
- made a course alteration thereby presenting a greater target to the oncoming "SEACRAFT".

Other Findings

The "LAURIE ZON" had been operating without a valid Inspection Certificate since October 4, 1987.

The Inspection Certificate aboard the "SEACRAFT" was effectively invalid as the endorsement for annual liferaft inspection had not been met.


"LAURIE ZON" / "SEACRAFT"
SECTION OF CHS CHART No. 4020
SECTION DE LA CARTE N° 4020 DU SHC
DEPTHS IN FATHOMS
PROFONDEURS EN BRASSES
ALL POSITIONS AND TRACKS ARE APPROXIMATE
TOUS LES POSITIONS ET SILLAGES SONT APPROXIMATIFS
TRACK OF "LAURIE ZON"
SILLAGE DU "LAURIE ZON"
POSITION OF COLLISION
POSITION DE L'ABORDAGE
51°30'N
51°20'N
57°00'W
56°40'W
CORNER BROOK
GANDER
CHANNEL PORT AUX BASQUES
ST JOHN'S
Forteau
Forteau Bay
Forteau Pt
Pte Amour
Chow Hd.
English Point
Schooner Cove
L'Anse au Loup
Double Ledge
Sandy Cove St. Barbe N
Savage Pt
Savage Cove
Flowers Ledges
Homeless Cove
Flowers Cove
Capstan Pt
Seal Islands
Bear Cove Pt
Bear Cove
Genge Pt
Anchor Point
Anchor Pt
Ice Pt
St Barbe Pt
St Barbe Bay
Black Duck Cove
Forrestors Point
Current I
GULF OF ST LAWRENCE



"LAURIE ZON"

"SEACRAFT"

"CAPE ROYAL"/"WESLEY & SISTERS"

Collision on Georges Bank, August 1, 1988.

Summary

"WESLEY & SISTERS"

The 57 gross ton Canadian stern trawler "WESLEY & SISTERS" was trawling in Northeast Channel, Georges Bank on August 1, 1988 in calm winds, 1 m swell and minimal visibility in thick fog. Before going down for lunch at about 1245, the skipper observed on his radar that the "CAPE ROYAL" was still fine on his starboard bow distant some 2 3/4 - 3 miles and proceeding at about the same speed in the same direction ahead of her. Some minutes later, when the helmsman observed the "CAPE ROYAL" to be 1 mile away, course was altered 10° to port. When the target came within 0.5 mile, the skipper was notified and unsuccessful attempt was made to establish VHF R/T contact. "CAPE ROYAL" was subsequently sighted visually very close on the starboard quarter and both vessels collided.

Her hull was breached and the vessel flooded, sinking rapidly. The crew managed to launch and board the liferaft and were subsequently rescued by the "CAPE ROYAL". Her replacement value was estimated to be $250,000.

"CAPE ROYAL"

At about 1230, the 93 gross ton Canadian stern trawler "CAPE ROYAL" commenced hauling in her gear and her course was progressively altered to starboard until she was heading in a NW'ly direction. During the period leading to the collision, the skipper was variously in and out of the wheel-house attending to the winch controls on the upper deck. Reportedly he did not see any targets on his radar. After the trawl doors were housed, the skipper increased speed to 3/4 of full throttle after observing no radar targets and headed in a NNE'ly direction for Shelburne, N.S. Moments later, the skipper, was engaged in an inconsequential R/T call and when he turned around "WESLEY & SISTERS" was right ahead and very close. He put the engine to full astern but collision occurred; she sustained minimal damage and returned to the collision position rescuing the crew of the "WESLEY & SISTERS"

Findings

The "WESLEY & SISTERS" and the "CAPE ROYAL" collided in restricted visibility conditions in the Northeast Channel on Georges Bank due to non-observance by both vessels of certain provisions of the Collision Regulations resulting in the

sinking of the "WESLEY & SISTERS" and only minor damage to the "CAPE ROYAL". It would appear that the following factors contributed to the casualty:

"CAPE ROYAL"

- the "CAPE ROYAL" did not maintain a proper look-out and thus did not detect the "WESLEY & SISTERS" on radar;

- the "CAPE ROYAL" was not proceeding at a safe speed given the prevailing conditions of restricted visibility;

- the other vessel using channels 9 and 16 VHF, was unable to make radio contact because one of the VHF sets aboard the "CAPE ROYAL" was defective in receiving on channel 9 and the other was not set on dual watch mode;

- the "CAPE ROYAL" altered course and increased speed without knowing the position of the "WESLEY & SISTERS", having lost her as a radar target; and

- no dedicated look-out was assigned on the "CAPE ROYAL".

"WESLEY & SISTERS"

- The helmsman on the "WESLEY & SISTERS" did not call the master immediately when he became concerned that a close-quarter situation was developing; and

- the "WESLEY & SISTERS" altered course based on scanty radar information.

Both Vessels

- Neither vessel was sounding the appropriate sound signals required in conditions of restricted visibility.

Other Findings

The "WESLEY & SISTERS" was not exhibiting the lights required in conditions of restricted visibility, but this factor is not considered to have had any material affect on the circumstances of the collision.

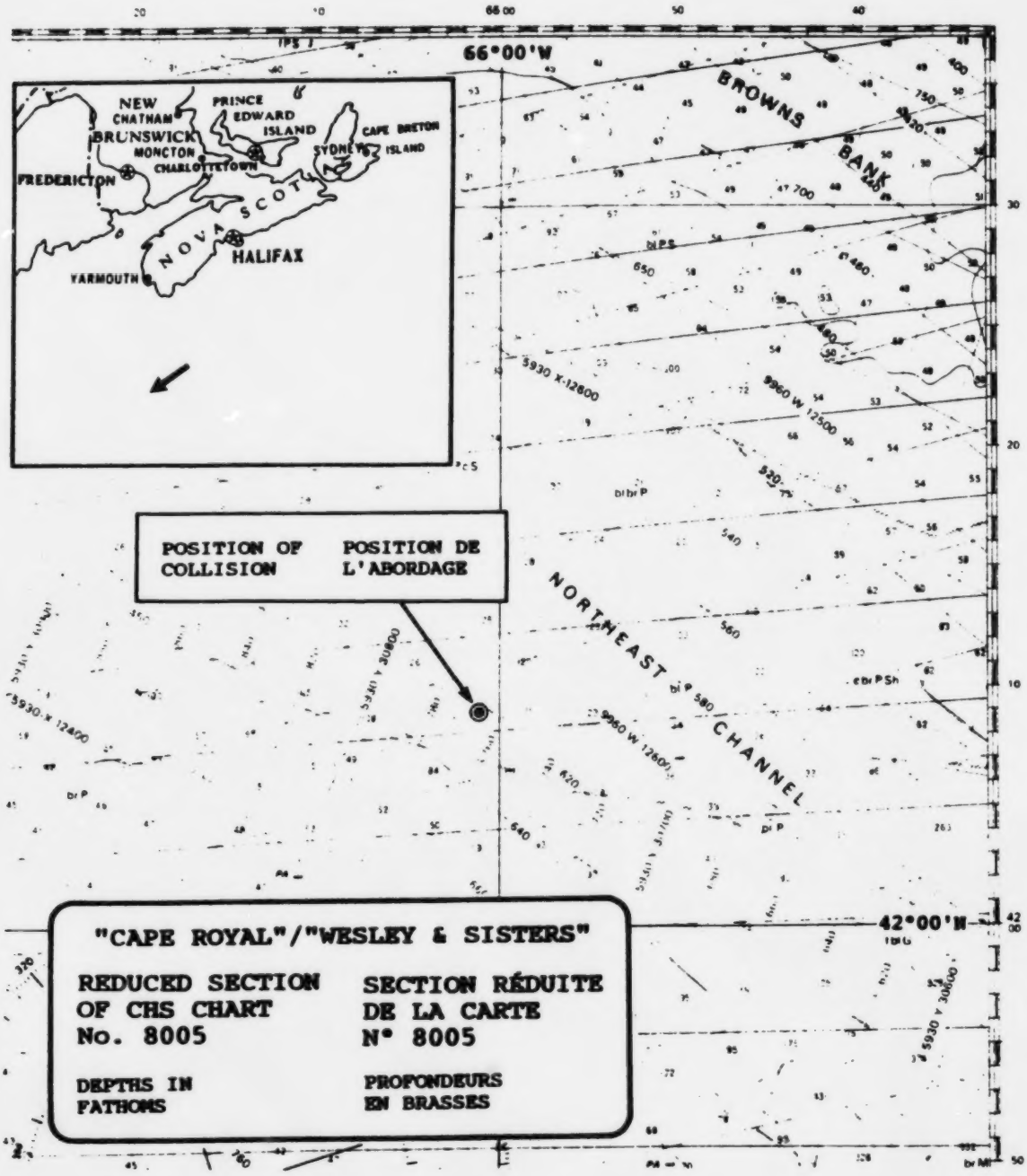
The common practice on small fishing vessels whereby all crew members engage in the fishing operations, to the

detriment of maintaining a proper look-out, particularly in poor visibility, is dangerous.

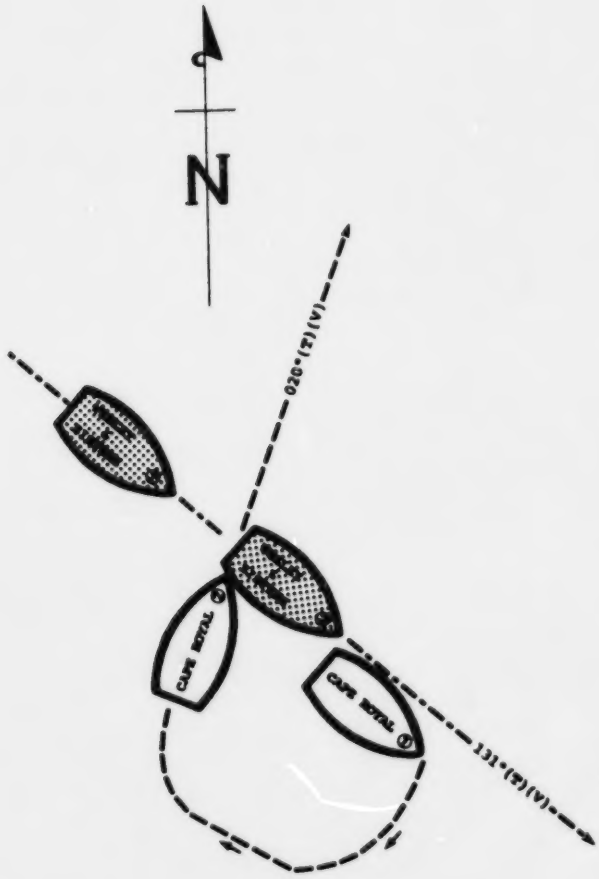
By withdrawing her bow from the damaged ship's side, the "CAPE ROYAL" contributed to the rapid flooding of the "WESLEY & SISTERS".

The "CAPE ROYAL" was not equipped with a passive radar reflector.

Both vessels were operating on autopilot in conditions of restricted visibility.


66°00'W
42°00'N
BROWNS BANK
NORTHEAST CHANNEL
NEW BRUNSWICK
CHATHAM
MONCTON
PRINCE EDWARD ISLAND
CHARLOTTETOWN
SYDNEY
CAPE BRETON ISLAND
FREDERICTON
NOVA SCOTIA
HALIFAX
YARMOUTH
POSITION OF COLLISION
POSITION DE L'ABORDAGE
"CAPE ROYAL"/"WESLEY & SISTERS"
REDUCED SECTION OF CHS CHART No. 8005
SECTION RÉDUITE DE LA CARTE N° 8005
DEPTHS IN FATHOMS
PROFONDEURS EN BRASSES

"CAPE ROYAL"



COLLISION ASPECT OF THE "WESLEY & SISTERS"
AND THE "CAPE ROYAL"

ANGLE DE L'ABORDAGE ENTRE LE "WESLEY & SISTERS"
ET LE "CAPE ROYAL"

"GETTY"

Deck-hand knocked overboard by a crab trap and drowned off Kincolith, Nass Bay, B.C., August 11, 1988.

Summary

The 11.58 m long, 21 gross ton Canadian seiner "GETTY" was converted for crab fishing. The vessel is of wooden construction with a cabin forward of amidships, a fish hold abaft the cabin and general work area aft. The 3 crew members had very limited experience in the crab fishery and none of them were in possession of a Radiotelephone Operator's Restricted Certificate (Maritime).

On the morning of August 11, 1988, the "GETTY" changed her fishing grounds arriving off Kincolith, B.C., at about 1310. A total of 100 traps divided into 3 strings of 30, 50 and 20 traps each were loaded along the afterdeck in 4 rows 6 to 8 high. Reportedly these traps were not securely stowed on deck. In order to set the crab traps, a marker buoy (scotsman) was thrown over the side and the haul-up line was paid out. The first trap was thrown into the water and the next trap was placed on the gunwale, baited and was hauled into the water by the weight of the first trap. Each trap had to be carried to the gunwale until the entire string (see sketch) was in the water and a scotsman marking the end of the string was let go. After the first string was set and when 40 of the 50 crab traps belonging to the second string were in the water, a trap was unexpectedly pulled from the top of the next tier by the haul-up line. The trap struck a deck-hand on the shins, bounced on deck, struck a staging platform at the stern of the vessel, bounced and struck the owner/deck-hand in the chest knocking him overboard; he was not wearing any form of a PFD. The time was about 1325.

The skipper, alerted by the deck-hand, turned the vessel around and proceeded within 6 m of the person in the water. Meanwhile, a knife was passed to the deck-hand and the haul-up line was cut. Some difficulty, with loss of time, was experienced in obtaining the lifebuoy which was stowed beneath the aluminum speed boat and haul-up lines, atop of the cabin. The skipper grabbed the lifebuoy and jumped into the water. Reportedly, the victim had sunk from view and failed to resurface. The 9°C water temperature limited the skipper's stay in water to about 5 minutes before being forced out by the cold. He was then hauled aboard and at 1332, he transmitted a distress message on VHF R/T channel 16, thus initiating official SAR response. At about 1445, the victim's body resurfaced briefly on the vessel's starboard bow before disappearing out of sight. To date his body has not been recovered.

Findings

On the early afternoon of August 11, 1988, while engaged in setting crab traps from the deck of the small Canadian fishing vessel "GETTY" off Kincolith, Nass Bay, B.C., a crewmember was struck on the chest by a falling crab trap, knocked overboard and drowned.

It would appear that the following factors contributed to the accident:

- the haul-up rope accidentally tangled in a trap;
- the crab traps were improperly stowed on deck and the trap was pulled off the top of the next tier, knocking the deck-hand overboard; and
- the crew was inexperienced in the crab fishery.

It would appear that the following factors contributed to the drowning of the crewmember:

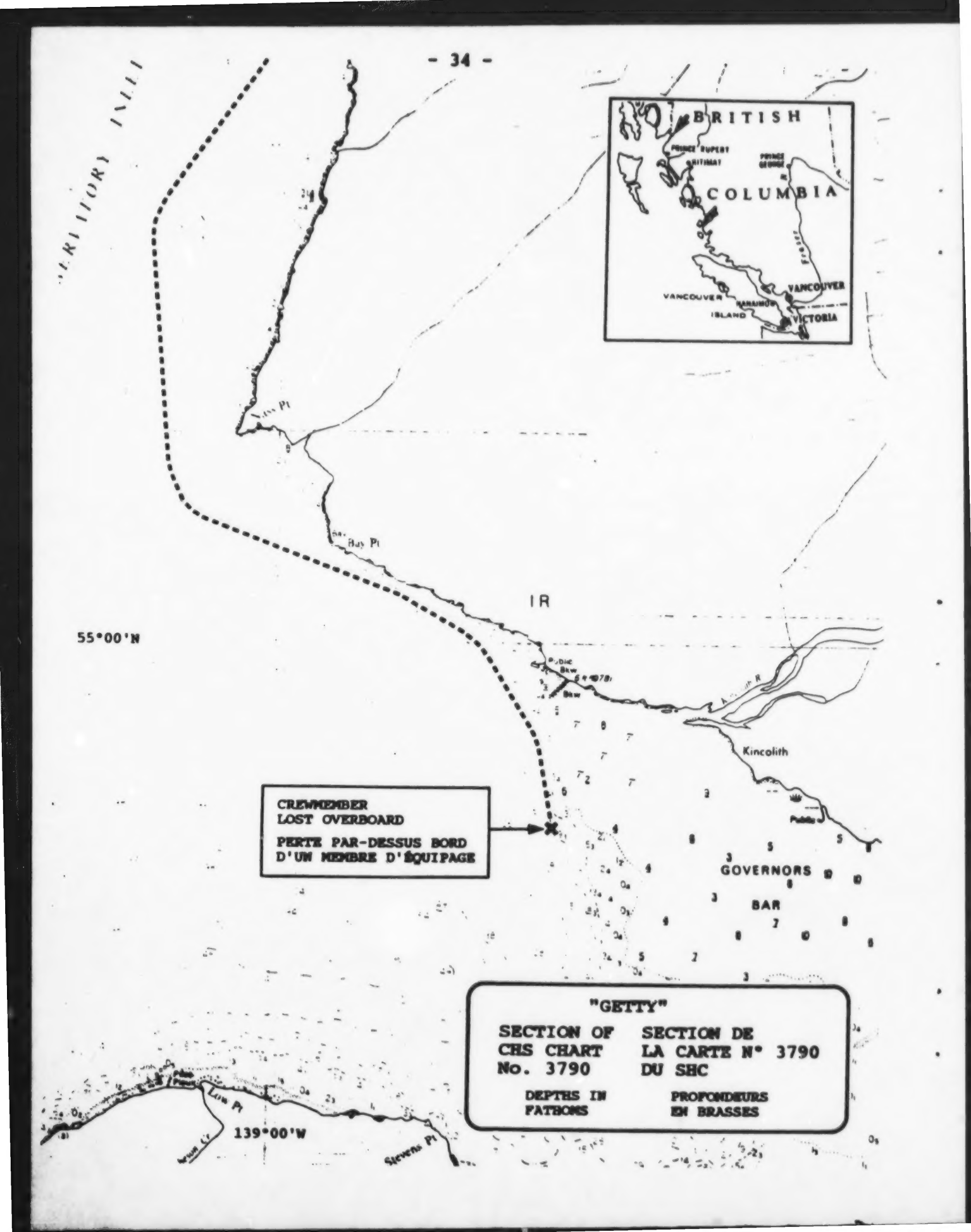
- the victim was not wearing a flotation device; and
- he may have received an injury prior to falling overboard that may have rendered him semi-conscious or incapable of remaining afloat.

Other Findings

A delay occurred in retrieving the lifebuoy for rescue purposes because the lifebuoy was improperly stowed.

The liferaft was not inspected annually thus effectively invalidating the vessel's Steamship Inspection Certificate.

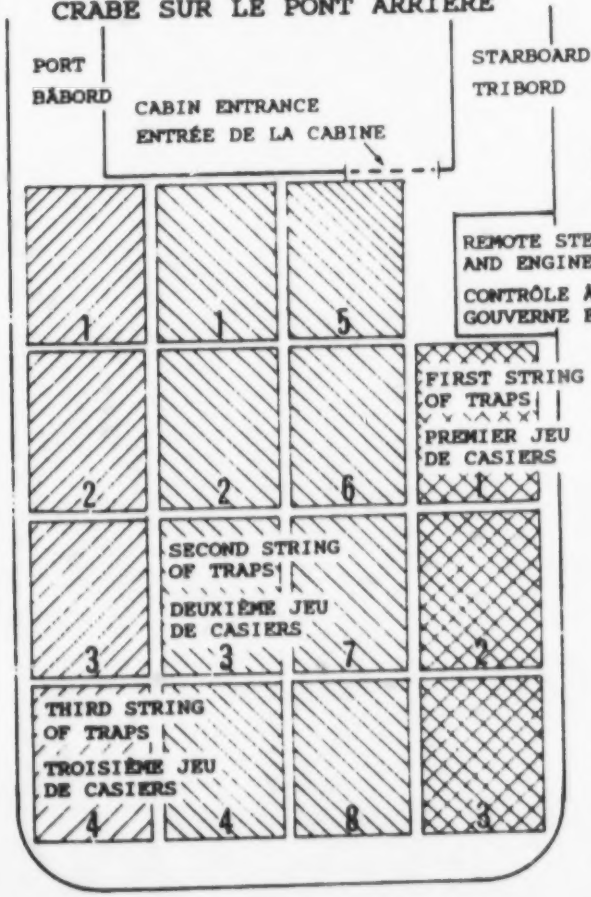
None of the crew aboard the "GETTY" were in possession of a Radiotelephone Operator's Restricted Certificate (Maritime).


BRITISH
COLUMBIA
VANCOUVER
VANCOUVER ISLAND
VICTORIA
Bay Pt
IR
55°00'N
Kincolith
CREWMEMBER
LOST OVERBOARD
PERTE PAR-DESSUS BORD
D'UN MEMBRE D'ÉQUIPAGE
GOVERNORS
BAR
"GETTY"
SECTION OF CHS CHART No. 3790
SECTION DE LA CARTE N° 3790 DU SHC
DEPTHS IN FATHOMS
PROFONDEURS EN BRASSES
Lizzie Pt
139°00'W
Stevens Pt

"GETTY"

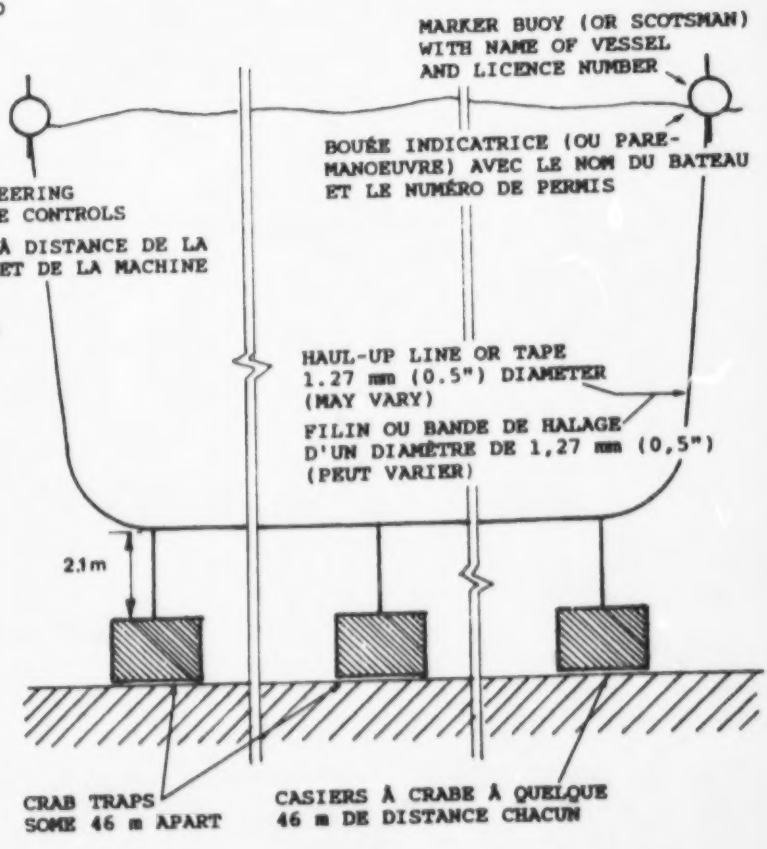
STORAGE OF CRAB TRAPS
ON AFTERDECK

ENTREPOSAGE DES CASIERS À
CRABE SUR LE PONT ARRIÈRE



STRING OF CRAB
TRAPS AS SET

JEU DE CASIERS À CRABE
COMME ON LES A POSÉS



"HEATHER 1"/ "PACIFIC STANDARD" / BARGE "CHEVRON HAIDA"
Collision in Lama Passage, B.C., August 28, 1988.

Summary

"HEATHER 1"

The 7 gross ton wooden gillnetter "HEATHER 1" departed Shearwater, B.C. on August 28, 1988 with a crew of 2 bound for Port Hardy, B.C. Winds were light, sea calm, visibility about 2 miles in darkness, rain and fog. Upon taking over the watch at about 2305, the deck-hand saw on the radar display first, and then visually, two targets off his port quarter which he thought were seiners overtaking his vessel. He then adjusted the course 2° to 3° to starboard. Shortly thereafter, a vessel passed the "HEATHER 1" close to port and reportedly altered course to starboard. Upon seeing a large chain appearing off the port bow at about 2320, the deck-hand throttled down the motor and disengaged the auto-pilot but this action was too late and a barge struck the vessel on her port beam. She rolled to starboard and began to fill with water. The deck-hand escaped through a window, swam back to the partially submerged vessel, opened the forecastle skylight and hauled the operator out. They were rescued by a passing fishing vessel at about 2325.

The crew sustained minor injuries and the vessel was declared a constructive total loss with an estimated value $34,000.

"PACIFIC STANDARD"

The 451 gross ton tug "PACIFIC STANDARD", with a complement of 9, departed Port Clements, B.C., on August 27, 1988 bound for Vancouver, B.C. with a 2,580 gross ton empty oil barge "CHEVRON HAIDA" under tow some 198 m - 213 m astern. The vessel, with a master and look-out on watch, was southbound in Lama Passage and was proceeding at 9 to 9.5 knots. She encountered small fishing vessels en route. Reportedly, she was off Napier Point at 2259, and Walker Island at 2312. Between 2315 and 2335, the deck-hand was away from the bridge preparing coffee and calling the next watch.

The mate, upon entering the wheel-house at 2340, was informed by the master that he had overheard a VHF conversation which indicated that a tug, southbound in Lama Passage, had run down a small boat. The master contacted the Coast Guard Radio Station at 2351 and advised that they had transited the area in the last hour and was not aware of having run over a fishing vessel; no times were provided.

Findings

On August 29, 1988 the small Canadian fishing vessel

"HEATHER 1", southbound in Lama Passage, B.C., in darkness and 2-mile visibility but light winds and slight sea, was involved in a collision with the southbound barge "CHEVRON HAIDA" in tow of the tug "PACIFIC STANDARD", due to a failure by both vessels to observe certain provisions of the Collision Regulations, resulting in the constructive total loss of the "HEATHER 1".

It would appear that the collision was contributed to by the following factors:

Both Vessels

- Neither vessel attempted to contact the other either by VHF radiotelephone nor were sound signals used;
- neither vessel used all available means to determine that risk of collision existed; and
- neither vessel maintained a proper look-out using all available means and in so doing did not appreciate the development of a potentially dangerous situation.

"PACIFIC STANDARD"

- She did not proceed at a safe speed in a channel with restricted sea room; and
- being an overtaking vessel, she did not keep out of the way of, and apparently never saw the "HEATHER 1".

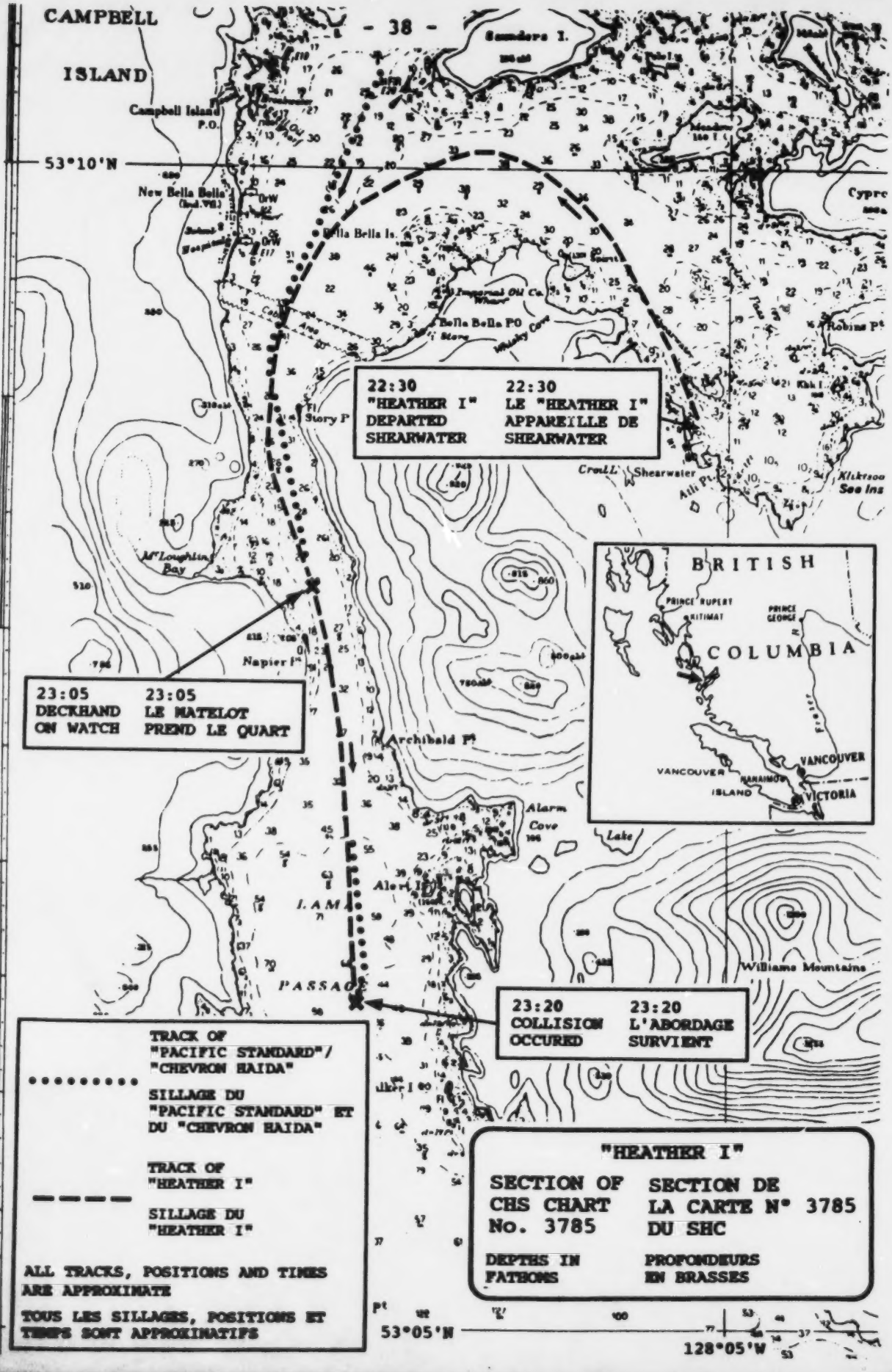
"HEATHER 1"

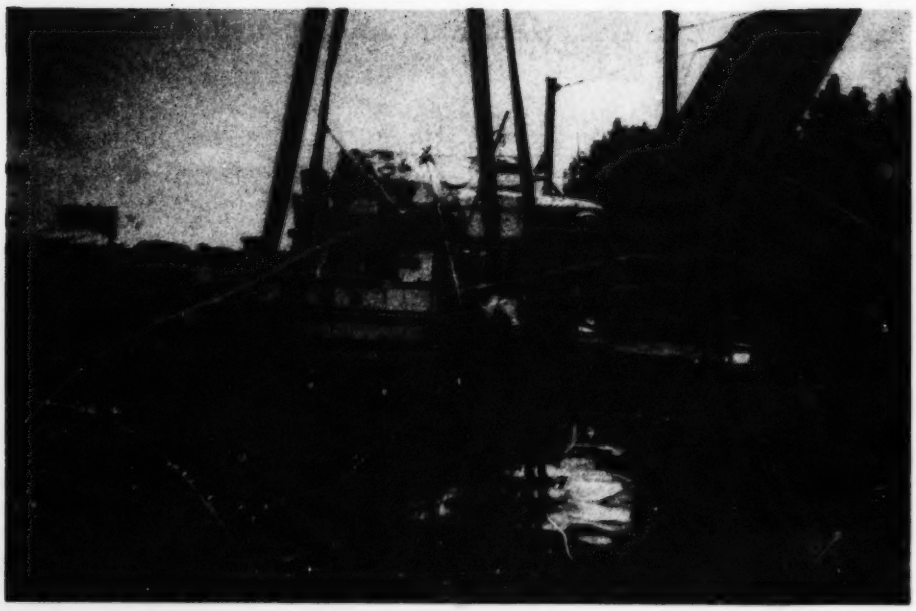
- The knowledge of the deck-hand with respect to the use of the radar for collision avoidance purpose was limited;
- she did not exhibit the proper navigation lights for a power-driven vessel underway; and
- good seamanship practice dictates that the 11 m long "HEATHER 1" should have, in the interest of safety, kept out of the way of the tug and tow given the limited sea room in the area.

Other Findings

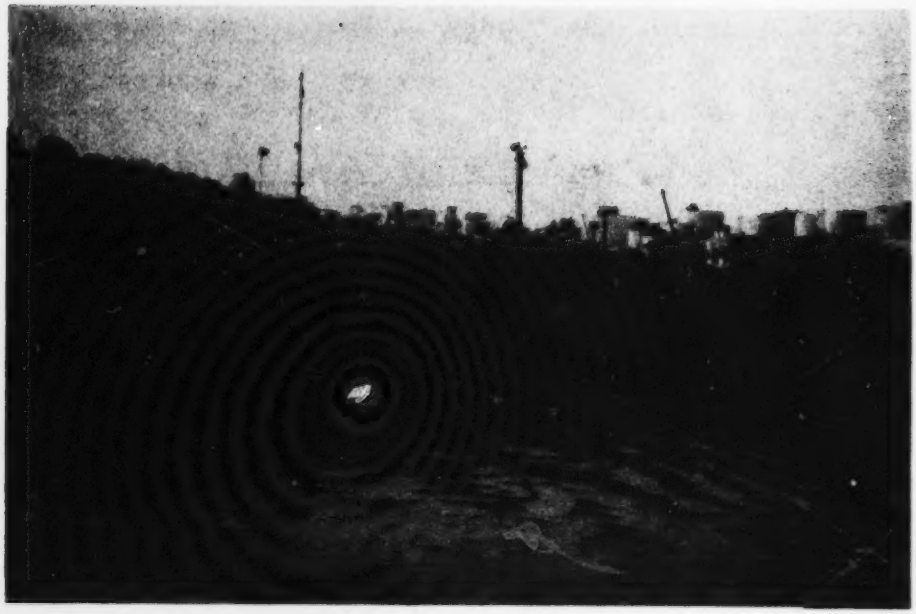
The operator of the "HEATHER 1" did not possess a Radiotelephone Operator's Restricted Certificate (Maritime).

The "HEATHER 1" was not fitted with a required lifebuoy.


CAMPBELL ISLAND
Saunders I.
Campbell Island P.O.
53°10'N
New Bella Bella
Bella Bella Is.
Imperial Oil Co
Bella Bella PO
Robins Pt
Story P
Shearwater
Croull
Atli Pt
Kliktsoo
See Ins
McLoughlin Bay
Napier I
Archibald Pt
Alarm Cove
Lake
Alert I
I.AM
PASSAGE
Williams Mountains
53°05'N
128°05'W
22:30
"HEATHER I" DEPARTED SHEARWATER
22:30
LE "HEATHER I" APPAREILLE DE SHEARWATER
23:05
DECKHAND ON WATCH
23:05
LE MATELOT PREND LE QUART
23:20
COLLISION OCCURED
23:20
L'ABORDAGE SURVIENT
BRITISH COLUMBIA
PRINCE RUPERT
KITIMAT
PRINCE GEORGE
VANCOUVER
VANCOUVER ISLAND
NANAIMO
VICTORIA
TRACK OF "PACIFIC STANDARD"/ "CHEVRON HAIDA"
SILLAGE DU "PACIFIC STANDARD" ET DU "CHEVRON HAIDA"
TRACK OF "HEATHER I"
SILLAGE DU "HEATHER I"
ALL TRACKS, POSITIONS AND TIMES ARE APPROXIMATE
TOUS LES SILLAGES, POSITIONS ET TEMPS SONT APPROXIMATIFS
"HEATHER I"
SECTION OF CHS CHART No. 3785
SECTION DE LA CARTE N° 3785 DU SHC
DEPTHS IN FATHOMS
PROFONDEURS EN BRASSES



"HEATHER I"



"CHEVRON HAIDA"

"TERRY LYNN II"/"TIGER II"

Collision in Dover Bay, N.S., August 29, 1988.

Summary

"TERRY LYNN II"

The 24 gross ton fishing vessel "TERRY LYNN II", with a crew of 3, departed Little Dover, N.S., at about 0405, August 29, 1988 with the skipper at the helm and no look-out. Winds were SW at 5 knots, rippled seas and 20 m visibility in thick fog. Her speed was about 4½ knots. When the inbound vessel "TIGER II" was about 1½ miles away on the radar, a port-to-port passing was arranged. When they were 1/4 to 1/8 of a mile apart, the "TIGER II" radar echo was lost in the cutter. Shortly thereafter, the skipper, upon observing the masthead and both side lights of "TIGER II" fine on his starboard bow, altered course to port and placed the engine on full ahead. Moments later, collision occurred at 0430 resulting in extensive damage to this vessel.

"TIGER II"

The 13 gross ton, inbound fishing vessel "TIGER II", with a crew of 4, was navigating by radar. The skipper was at the helm and two deck-hands were maintaining a look-out. After rounding 'PQ4' buoy at about 0420, speed was reduced to about 5 knots. The "TIGER II" observed an echo on her radar fine on her port bow. The skipper, upon sighting the navigation lights of the "TERRY LYNN II", and realizing that she was very close, put the helm hard-to-port and his engines to full astern. This action was too late and both vessels collided; she sustained insignificant damage.

Events following the collision

The "TIGER II" backed away. At about 0435, the stern of the "TERRY LYNN II" was awash. The "TIGER II" came alongside the "TERRY LYNN II" and the crew transferred directly on board the former. The "TERRY LYNN II" drifted and eventually sank. She was a total loss with an insured value of $50,000. Pollution was minor.

Findings

The "TERRY LYNN II" and the "TIGER II" collided in conditions of restricted visibility in Dover Bay, N.S., resulting in the sinking of the "TERRY LYNN II" and only minimal damage to the "TIGER II". It would appear that the following factors contributed or may have contributed to the casualty:

Both Vessels

- visibility was in the order of 20 m and manoeuvring room was restricted;

- navigation and collision avoidance was solely by radar;

- neither vessel fully determined the risk of collision that existed nor did either vessel take effective action to avoid collision such as to result in passing each other at a safe distance;

- the likelihood that one or both vessels were on a course or courses which were not sufficiently to starboard on the approach to allow for a safe port-to-port passing situation;

- the skippers were steering the vessels, handling the radiotelephones and navigating without assistance of their deck-hands; and

- neither the "TERRY LYNN II" nor the "TIGER II" carried on board the largest scale chart of the area and despite their extensive local knowledge it is possible that reference to the chart may have inspired more confidence in taking effective avoiding action.

"TERRY LYNN II"

- The loss of the target of the "TIGER II" in the sea clutter of the radar aboard the "TERRY LYNN II" shortly prior to collision; and

- the lack of a proper look-out on the "TERRY LYNN II" may have prevented an earlier appreciation of the situation.

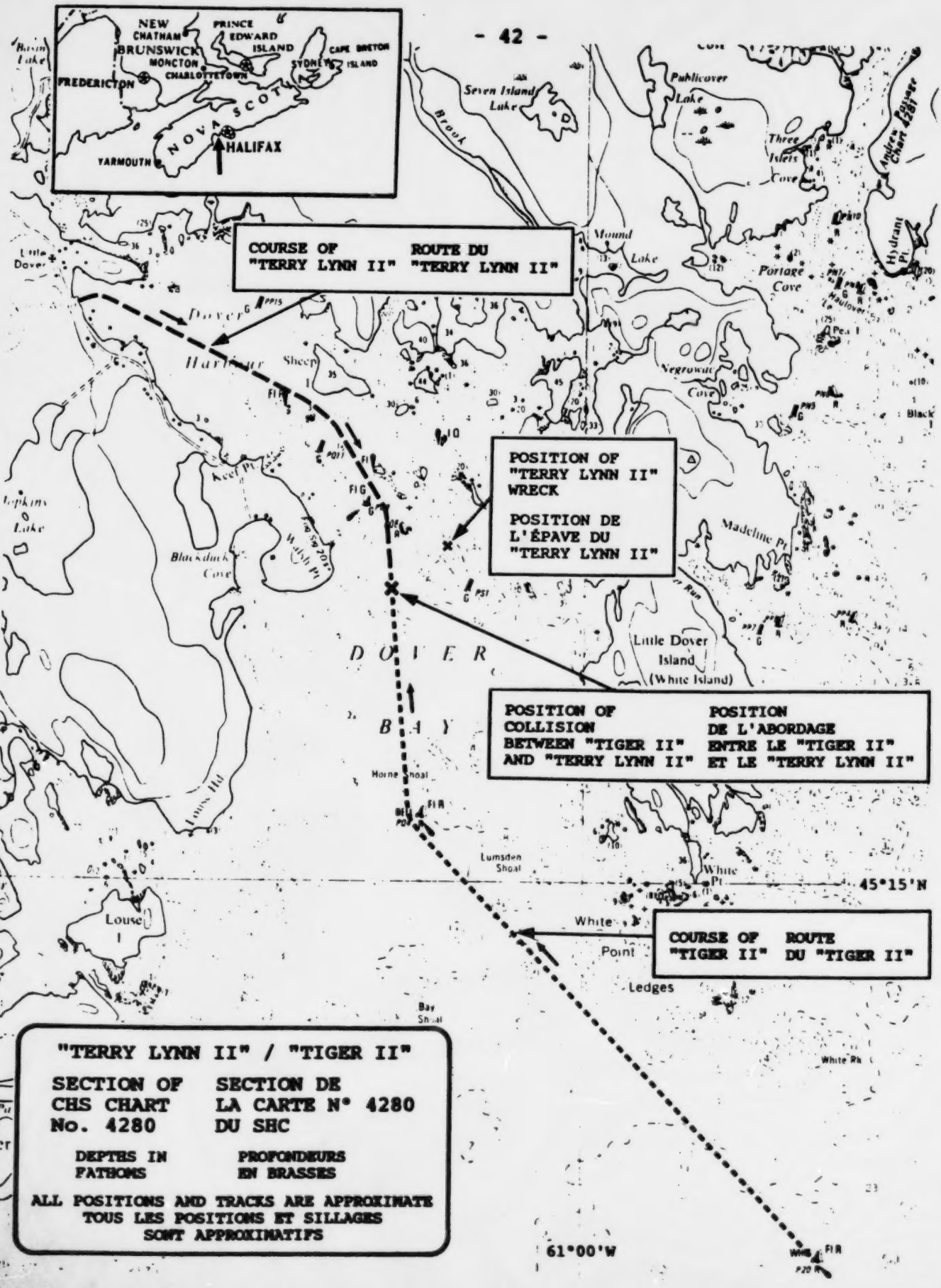
Other Findings

Neither the "TERRY LYNN II" nor the "TIGER II" were making sound signals.

The "TIGER II" was not fitted with an efficient sound signal apparatus.

Neither the "TERRY LYNN II" nor the "TIGER II" carried radio station licences for VHF radiotelephones.

The skipper of the "TERRY LYNN II" was not in possession of a Radiotelephone Operator's Restricted Certificate.



"TERRY LYNN II" / "TIGER II"

SECTION OF CHS CHART No. 4280

SECTION DE LA CARTE N° 4280 DU SHC

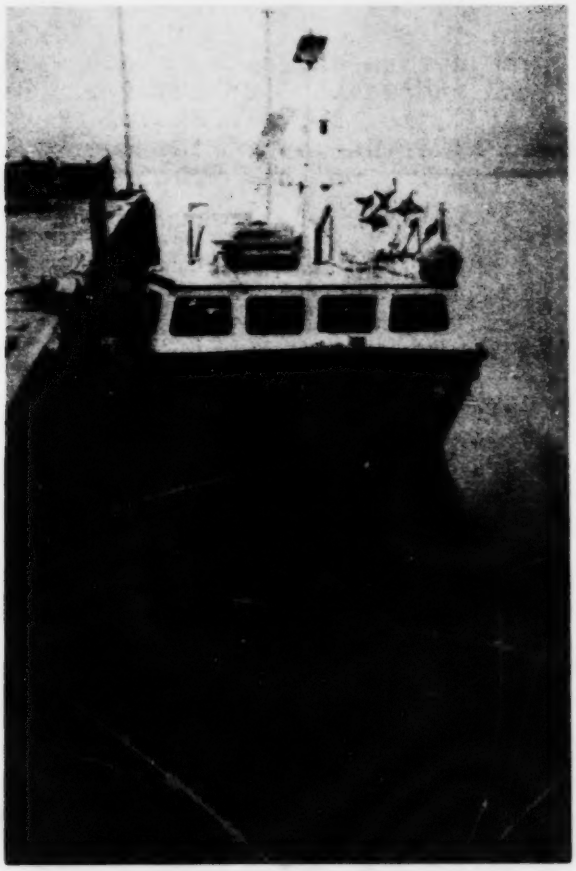
DEPTHS IN FATHOMS

PROFONDEURS EN BRASSES

ALL POSITIONS AND TRACKS ARE APPROXIMATE

TOUS LES POSITIONS ET SILLAGES SONT APPROXIMATIFS

"TERRY LYNN II"



"TIGER II"

"NORCHA"

Capsize and loss while purse seine-net fishing, Bay of Fundy, N.S., August 30, 1988.

Summary

The 55 gross ton, New-Brunswick registered, purse seine-net fishing vessel "NORCHA" departed Meteghan, N.S., August 30, 1988 with a crew of six comprising the skipper and five deck-hands. She carried 2 tonnes of ice which was intended to preserve the catch. The weather conditions at the time of the casualty were, fine and clear, calm winds and sea with a low sea swell.

Upon arrival at the fishing grounds at 2100, she was stopped and the net was set. At 2225, the net had been bunted and hauled close. The net had been led from the stern and returned to the starboard side amidships, forming a purse which enclosed the trapped fish on the vessel's starboard side giving her a list of some 15° to starboard. The depth of the net below the waterline was estimated to be some 25 m and the contents of live, swimming fish would amount to about 100 tonnes when dead.

After securing the net to the side, the usual process of righting the vessel and increasing her stability had begun by pumping the fish into the port side of the centrally, longitudinally divided hold. However, the vessel started to heel further to starboard. The heel progressively developed until the deck-edge was submerged and then the hatchway to the hold. Downflooding to the hold, accommodation and engine-room commenced and continued until the vessel eventually capsized. She remained afloat, keel up, for approximately 50 minutes before she sank in 27 fathoms of water in position 44°05'N, 66°15.5'W.

As the vessel was structurally sound and her hull had not been breached, the cause of capsizing was attributed to the weight within the net having rapidly increased, causing heeling moments in excess of the righting moments provided by the vessel's stability condition.

According to marine biological data, the conditions which could have led to instability and capsize were that the fish within the net died and sank to the bottom of the net, and/or the fish sounded; i.e., swam to the bottom of the net in an attempt to reach the sea-bed.

All crew were on deck tending to the fishing process and securing another boat alongside. As the "NORCHA" capsized, in about 30 seconds, there was no time to use the radiotele-

phone or life-saving equipment and the crew jumped onto the other boat.

The value of the "NORCHA" was estimated to be $300,000 and salvage was not considered to be economically viable. There were no injuries and pollution was minimum.

Findings

The Canadian, purse seine-net fishing vessel "NORCHA" capsized and sank in the Bay of Fundy during good weather conditions while engaged in herring fishing.

In the absence of this vessel or a similar vessel and therefore in the absence of relative stability data, the exact conditions of stability could not be calculated; however, it would appear that the following factors contributed to capsizing:

- the seine net was hauled and bunted too quickly and too compactly;

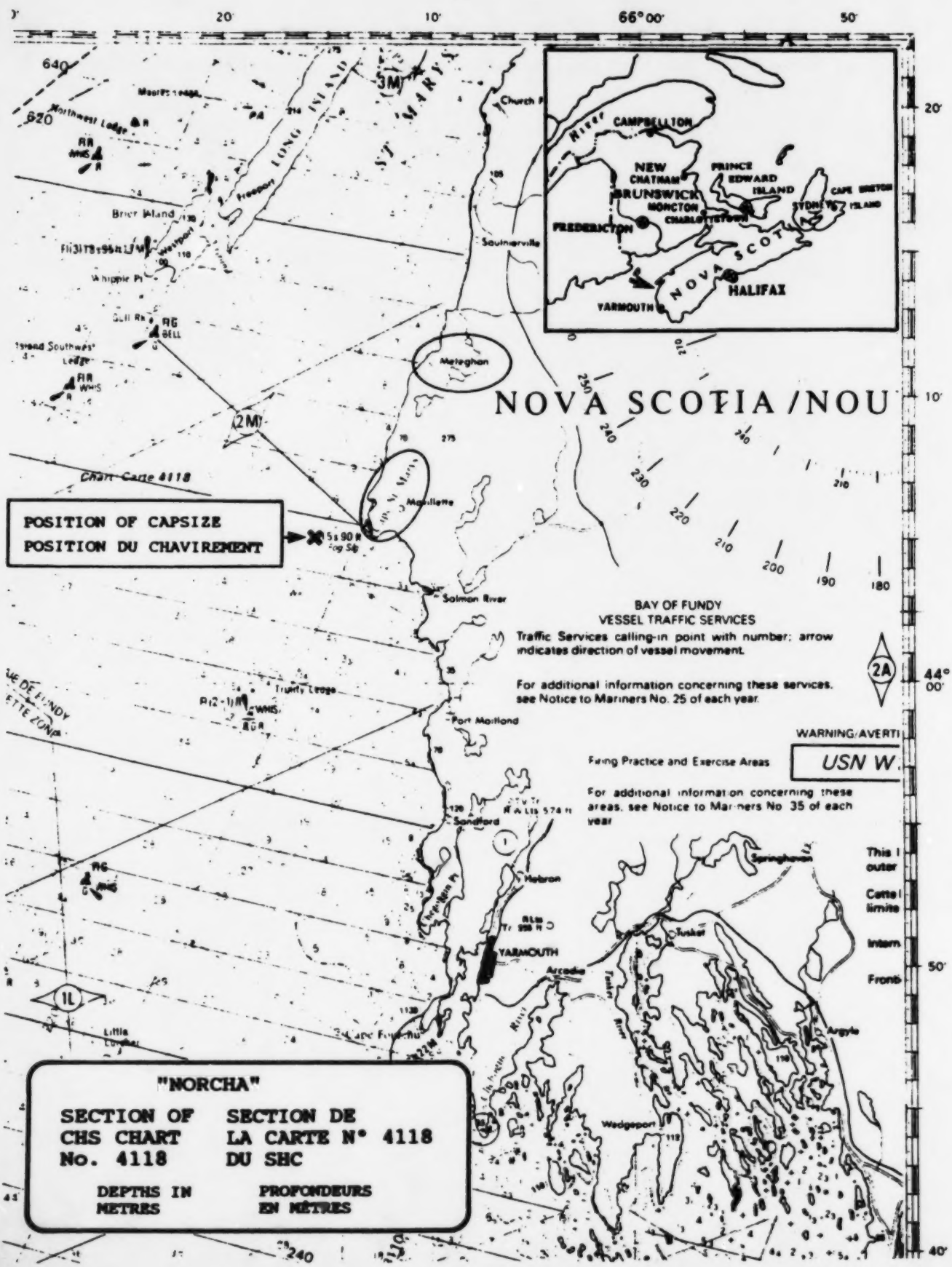
- the entrapped herring became stressed and either died or attempted to descend to the sea-bed (sounded); and

- the combination of dying and sounding fish caused a weight and downward force in the bottom of the net which acted on the starboard gunwale causing the vessel to heel, downflood through open hatches and lose transverse stability.

Other Findings

The speed of capsizing precluded the crew from using any life-saving or other equipment.

The fact that another vessel was alongside the "NORCHA" was fortunate.


66° 00'
20'
10'
50'
20'
10'
44° 00'
40'
NOVA SCOTIA / NOU
CAMPBELLTON
NEW BRUNSWICK
MONCTON
PRINCE EDWARD ISLAND
CAPE BRETON ISLAND
FREDERICTON
NOVA SCOTIA
HALIFAX
YARMOUTH
POSITION OF CAPSIZE
POSITION DU CHAVIREMENT
BAY OF FUNDY
VESSEL TRAFFIC SERVICES
Traffic Services calling-in point with number; arrow indicates direction of vessel movement.
For additional information concerning these services, see Notice to Mariners No. 25 of each year.
2A
WARNING/AVERTI
USN W
Firing Practice and Exercise Areas
For additional information concerning these areas, see Notice to Mariners No. 35 of each year
Chart Carte 4118
Meteghan
Saulnierville
Church P
Brier Island
Westport
Whipple Pt
Trinity Ledge
Port Maitland
Sandford
Hebron
YARMOUTH
Arcadie
Springhaven
Tusket
Argyle
Wedgeport
Little Load
Meteghan
Salmon River
Mouliene
Church Point
Freeport
LONG ISLAND
ST MARYS
Northwest Ledge
Mauds Ledge
Grand Southwest Ledge
Trinity Ledge
BAY OF FUNDY
ETTE ZONE
"NORCHA"
SECTION OF CHS CHART No. 4118
SECTION DE LA CARTE N° 4118 DU SHC
DEPTHS IN METRES
PROFONDEURS EN MÈTRES

"NORCHA"

Power block at head of derrick

Poulie asservie à la tête du mât de charge

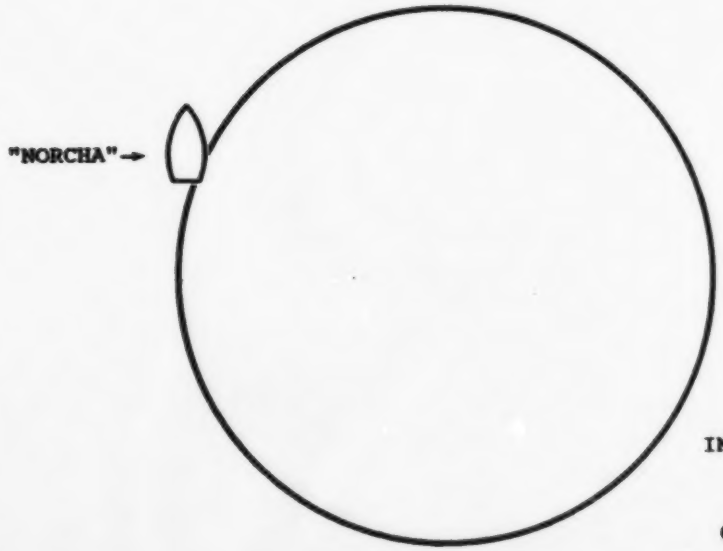
Bunting winch and line at centre

Treuil de fond et Filin au centre

Chute (raised position) for pumping fish across the vessel

Glissière (position levée) pour décharger le poisson du navire

Purse seine-net gear similar to "NORCHA"
Gréement de senne coulissante semblable à celui du "NORCHA"



INITIAL DEPLOYMENT OF PURSE SEINE-NET APPROXIMATELY TO SCALE

DÉPLOIEMENT INITIAL DE LA SENNE COULISSANTE À PEU PRÈS À L'ÉCHELLE

"LUMAAQ"

Grounding in Marystown Harbour, Nfld., September 11, 1988.

Summary

The 715 gross ton steel stern trawler "LUMAAQ" is ice-strengthened and fitted with a controllable pitch propeller. Following repairs including those to her steering gear during dry-docking, she was refloated on September 10, 1988 and secured starboard side to the Marystown Syncrolift Wharf. She was manned by a crew of 8 comprising a master, chief mate, engineer and bosun who were from Faroe Island while the remainder of the crew was Canadian. Reportedly, prior to her departure, the steering gear was tested by the owner's fleet engineer along with the fishing master; both were satisfied with the results despite the maximum rudder indicator readings of 24° P and 26° S. However no one witnessed the actual movements of the rudder during these tests and the limit switch settings were left unaltered.

The weather on departure was SW winds at 4 knots and good visibility. The current was estimated as setting 225° at about 2-3 knots. When the vessel departed from her berth at 2215, September 11, her navigating equipment was functioning satisfactorily. When the vessel's stern was swung out using the forward spring, the engine was put astern and the spring cast off. When she was 40-45 m off, and at an angle of about 50°-60° to the wharf, several attempts were made to swing the vessel around to starboard using the main engine and starboard helm but reportedly the vessel did not respond. The master then attempted to turn the vessel around to port but to no avail and the vessel eventually grounded on a sand bar some 100 m south of the wharf at 2335. After several unsuccessful attempts at refloating, the vessel was lightened and eventually refloated, securing back alongside the wharf at 2300 September 12.

On September 13, 1988, a diver inspected the vessel's bottom and found some damage to the propeller blades. He also reported that the rudder movement did not correspond with the rudder indicator in the wheel-house.

The vessel was lifted out of the water and upon opening the rudder steering mechanism cover, it was found that the rudder indicator linkage arm (aft) was found broken. This was renewed and when first re-assembled, the linkage arm-actuated gears were not at the original markings. They were re-aligned and the limit switch re-set to obtain 35° maximum helm on either side. Repairs were completed at a cost of $19,795 and the vessel sailed to Harbour Grace at a later date.

Findings

On the evening of September 11, 1988, during good weather and at high tide, the "LUMAAQ" ran aground inside the shipyard basin shortly after leaving the Marystown Syncrolift Wharf. The precise cause of the grounding could not be ascertained but it would appear that the following factors may have contributed to the casualty:

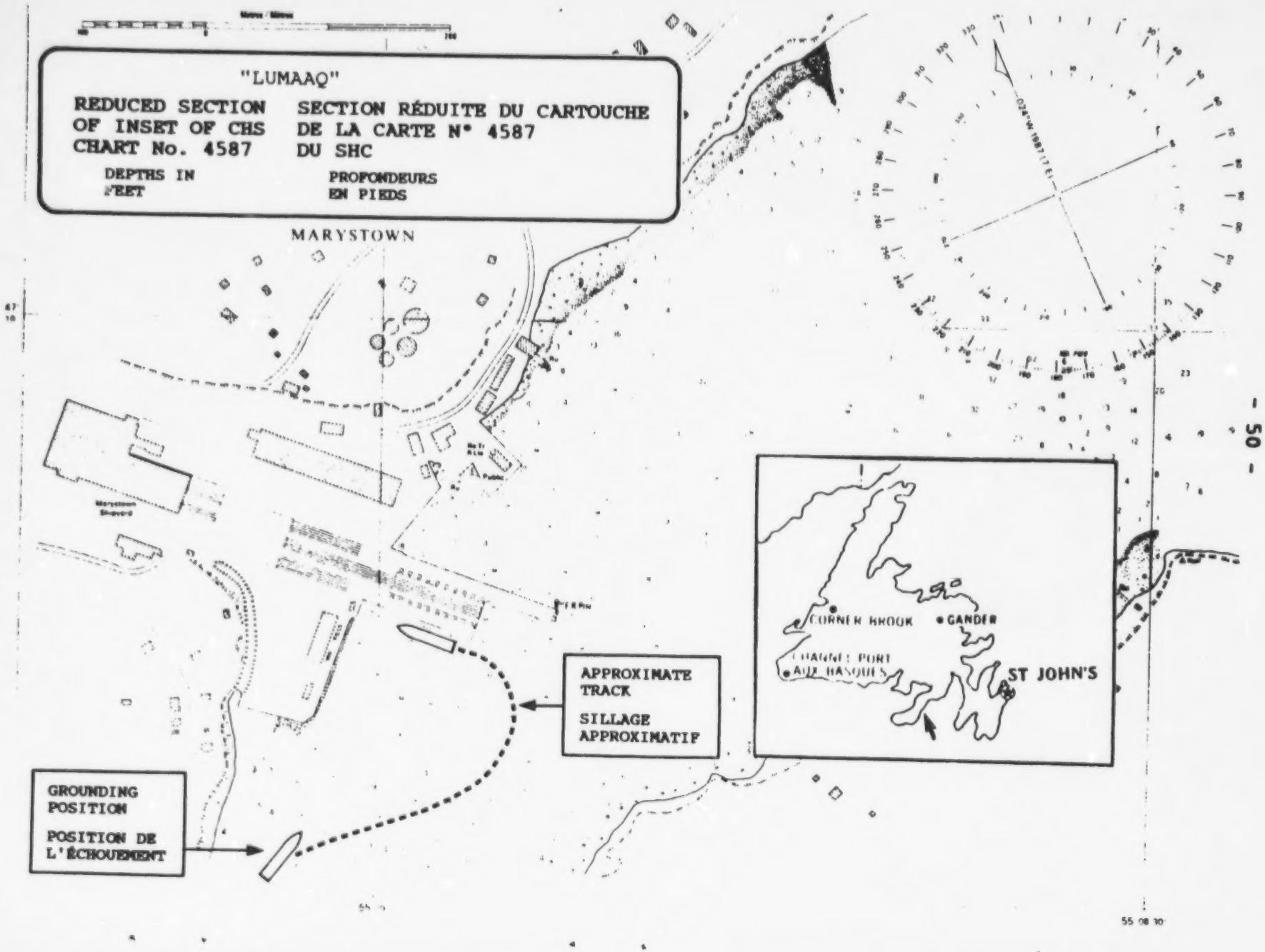
- the master was not familiar with Marystown Shipyard basin;
- manoeuvring was during darkness and in a confined area;
- a current estimated at 2-3 knots prevailed at the time;
- the rudder indicator reading did not conform to the required 35° angular movement to port or starboard from its midship position at the time of testing prior to departure; and
- the rudder indicator reading was found to not correspond with rudder movement, after the grounding, and the linkage arm was found broken.

Other Findings

The "LUMAAQ" was not carrying properly certificated officers.

The master in charge of the "LUMAAQ" did not hold a Canadian Certificate nor was an exemption issued to the vessel authorizing the master to sail in that capacity.

The actual rudder movements whilst testing the steering system, prior to the grounding, were not sighted.


"LUMAAQ"
REDUCED SECTION OF INSET OF CHS CHART No. 4587
SECTION RÉDUITE DU CARTOUCHE DE LA CARTE N° 4587 DU SHC
DEPTHS IN FEET
PROFONDEURS EN PIEDS
MARYSTOWN
CORNER BROOK
GANDER
PORT AUX BASQUES
ST JOHN'S
APPROXIMATE TRACK
SILLAGE APPROXIMATIF
GROUNDING POSITION
POSITION DE L'ÉCHOUEMENT

"LUMAAQ"

"LUMAAQ" aground
"LUMAAQ" échoué

Rudder indicator linkage
Méchanisme de l'indicateur d'angle du gouvernail

"OCEAN LEADER"/"SEALIFE II"

Collision off Seal Island, N.S., September 16, 1988.

Summary

F/V "SEALIFE II"

The 287 gross ton Canadian purse seiner "SEALIFE II" was fitted with a single controllable pitch propeller. Included in her navigation equipment and in operation were two radars, Loran C and three VHF R/Ts. After some delay in unloading her catch of herring and loading ice aboard, the "SEALIFE II" departed West Head, N.S., at 2000, September 15, 1988. Upon arrival at the herring fishing grounds off Seal Island, N.S., and after completing her first set, the crew were resting in the galley at 0110, September 16 awaiting the master's signal for the second set.

The master, occupying the starboard wheel-house chair, used the follow-up remote steering control to manoeuvre the vessel while a deck-hand, occupying the port wheel-house chair, who was assigned a rotating one-hour watch, was maintaining a look-out. While searching for herring, the wheel-house heater was turned on and, the vessel, exhibiting navigation lights for a power-driven vessel underway, was proceeding at about 5 knots. The winds were NW at 25-30 knots and visibility was 10 miles. Both the master and the look-out fell asleep and were awakened at 0155 by the impact of collision with the "OCEAN LEADER". She sustained minor indentations to her stem.

F/V "OCEAN LEADER"

The 277 gross ton Canadian purse seiner "OCEAN LEADER" was fitted with a single controllable pitch propeller. She departed Yarmouth, N.S., at 1800, September 15, 1988 and upon arrival off Seal Island, commenced fishing. There were 12-15 fishing vessels within a 3 mile area. In order to repair a seine net that was damaged during fishing, the vessel was manoeuvred a short distance away from the centre of the fishing fleet and at 0130, September 16, the main engine was placed on idle awaiting completion of repairs to the net.

The bridge was manned by the OOW and the fishing skipper. The vessel drifted exhibiting floodlights, navigation and fishing lights. Her two radars, Loran C and VHF R/T were in use. At about 0150, a vessel, later identified to be the "SEALIFE II", approached from the port side, passed across the bow of the "OCEAN LEADER", and continued to turn until collision occurred. Initially, it was assumed that the "SEALIFE II" was engaged in setting her net and a beam of

searchlight was directed towards her wheel-house window, but to no avail. A last minute action to avoid collision was taken by placing the wheel hard-to-starboard and the engines to full ahead but both vessels collided; the angle of impact being about 90°. She sustained some damage abaft amidships on her starboard side to shell plating, bulwarks and gallows.

Events following the collision

After assessing damage and exchanging information on radio, both vessels separated and using their own power the "SEALIFE II" proceeded to West Head while the "OCEAN LEADER" proceeded to Yarmouth first and later to Caraquet where permanent repairs were carried out at an estimated cost of $30,000.

Findings

The collision between the purse seiners "SEALIFE II" and the "OCEAN LEADER" occurred during the hours of darkness and in good weather and visibility conditions. The collision was caused by the inability of the crew of the "SEALIFE II" to maintain a proper watch as they had fallen asleep due to fatigue.

It would appear that the following were contributing factors:

"SEALIFE II"

- Lack of effective planning of the work/rest hours to ensure that properly alert navigation personnel were on watch;

- due to a lack of qualified experienced personnel to rotate through an adequate work/rest cycle, the full responsibility was placed on the master for complete operation of the vessel;

- the personnel on watch, already fatigued, succumbed to the rising ambient temperature and lack of fresh air in the wheel-house whilst resting in chairs and utilizing the remote steering control; and

- as the give way vessel, she did not keep out of the way of the "OCEAN LEADER" which was on her starboard side.

"OCEAN LEADER"

- She did not use sound signals in an attempt to

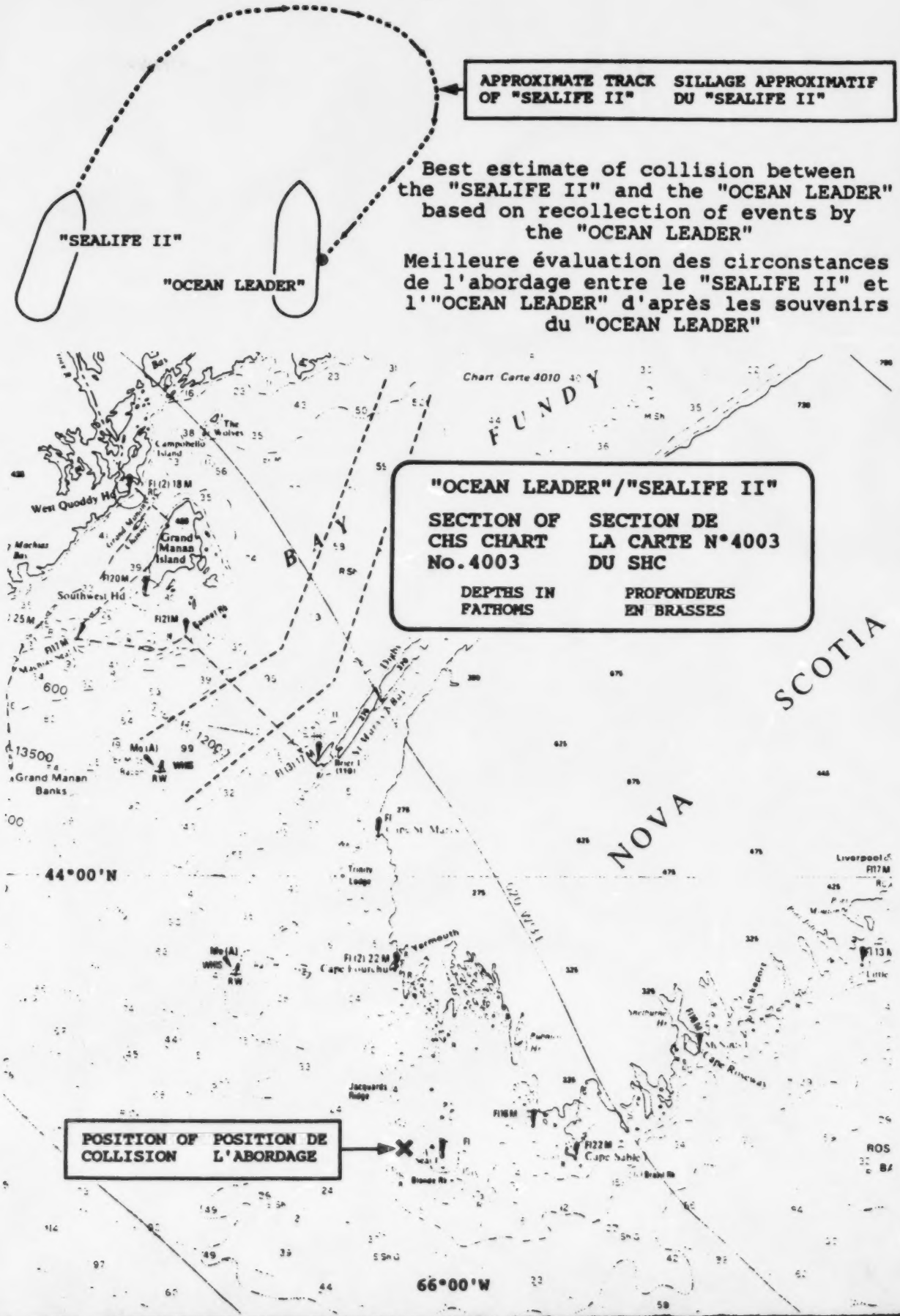
attract attention; and

- since the "SEALIFE II" did not maintain a steady course, it hampered the ability of the "OCEAN LEADER" to determine, in ample time, if risk of collision existed and thus prevented the latter from initiating early action to avoid collision.

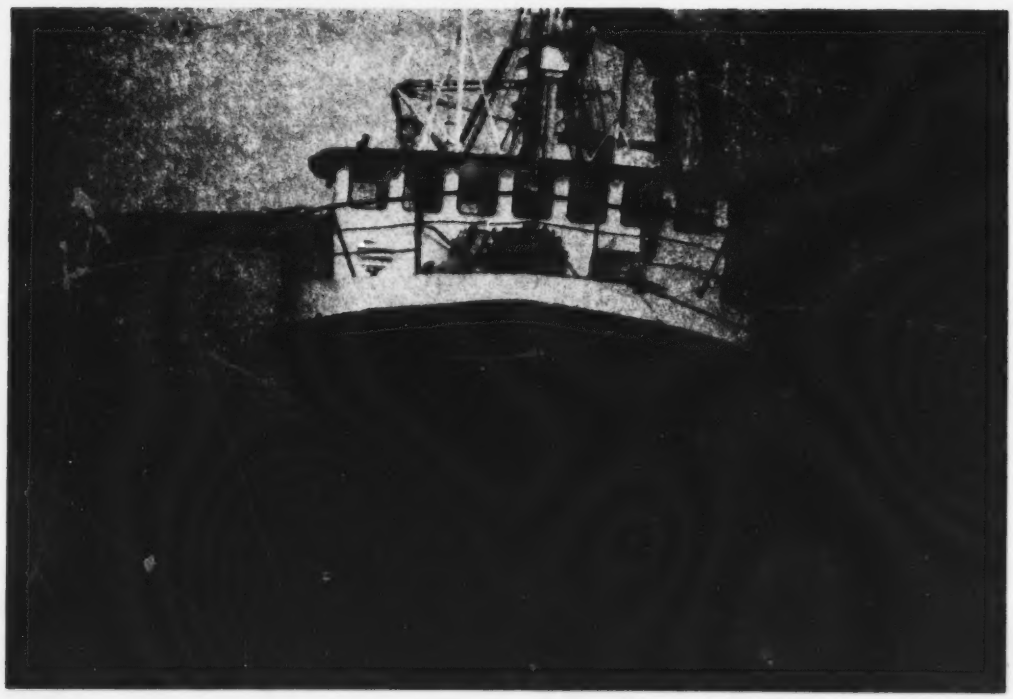
Other Findings

Neither vessel used VHF R/T either to make a safety call or to ascertain the intention of the other vessel.

Although not engaged in fishing operation, the "OCEAN LEADER" displayed lights for a vessel engaged in fishing operations.


APPROXIMATE TRACK OF "SEALIFE II"
SILLAGE APPROXIMATIF DU "SEALIFE II"
"SEALIFE II"
"OCEAN LEADER"
Best estimate of collision between the "SEALIFE II" and the "OCEAN LEADER" based on recollection of events by the "OCEAN LEADER"
Meilleure évaluation des circonstances de l'abordage entre le "SEALIFE II" et l'"OCEAN LEADER" d'après les souvenirs du "OCEAN LEADER"
"OCEAN LEADER"/"SEALIFE II"
SECTION OF CHS CHART No.4003
SECTION DE LA CARTE N°4003 DU SHC
DEPTHS IN FATHOMS
PROFONDEURS EN BRASSES
POSITION OF COLLISION
POSITION DE L'ABORDAGE
FUNDY
BAY
NOVA SCOTIA
Chart Carte 4010
44°00'N
66°00'W
West Quoddy Hd
Grand Manan Island
Southwest Hd
Grand Manan Banks
Cape Sable

"OCEAN LEADER"



"SEALIFE II"

"RED STAR"/"JDL"

Collision off Saint-Godefroi, Quebec, September 16, 1988.

Summary

"JDL"

The 14.9 gross ton, 12.19 m long Canadian wooden fishing vessel "JDL" was built in 1987 and registered in Caraquet N.B. The vessel, with a crew of five, departed Caraquet, at 1600, September 16, 1988 bound for the herring fishing ground. The vessel followed a shoal of fish up to Saint-Godefroi, and the crew were preparing to set their nets at around 2000. The operator was at the helm and the vessel was heading NW towards the Saint-Godefroi light at a speed of about 2-3 knots.

That evening, several vessels were gathered off Saint-Godefroi to fish together and used their floodlights in order to get a good catch. The operator had noticed several fishing vessels in the area but did not pay attention to any one in particular. The night had fallen an hour before and the weather conditions and visibility were good. Both vessels collided at 2023 one mile SW of Saint-Godefroi light. The main damage comprised a 0.5 m hole in the port bow.

"RED STAR"

The 14.5 gross ton, 3.99 m long, Canadian fishing vessel "RED STAR" was built in 1970 and registered in Paspébiac, Quebec. The vessel departed Saint-Godefroi at 1830, with a crew of three, bound for herring fishing grounds offshore. The vessel followed a shoal of fish and arrived where several other fishing vessels had gathered. The floodlights from the fishing vessels illuminated the waters off Saint-Godefroi. The operator was at the helm steering a NE (M) course while the crew members were donning their wet gear in preparation for setting their nets. The vessel's speed was about 3 knots. Suddenly, the operator saw on his starboard the port side of a vessel heading in his direction. He reversed the engine and placed the helm hard-to-port but the collision was unavoidable. The starboard bow of the "RED STAR" came in contact with the port bow of the "JDL". The vessel's main damage comprised a 0.5 m hole in the starboard bow.

Events following the collision

Both vessels assessed their damage. Each vessel proceeded on their own power to Saint-Godefroi for repairs,

arriving there without further incident. CGRS Rivière-au-Renard was informed of the collision. Repairs were estimated to cost $5,000 each.

Findings

The collision between the "RED STAR" and the "JDL" occurred off Saint-Godefroi at nightfall and in good weather conditions primarily due to non-observance of certain provisions of the Collision Regulations and confusion resulting from a number of shipboard and shore lights in their vicinity.

It would appear that the following factors contributed to the casualty:

Both Vessels

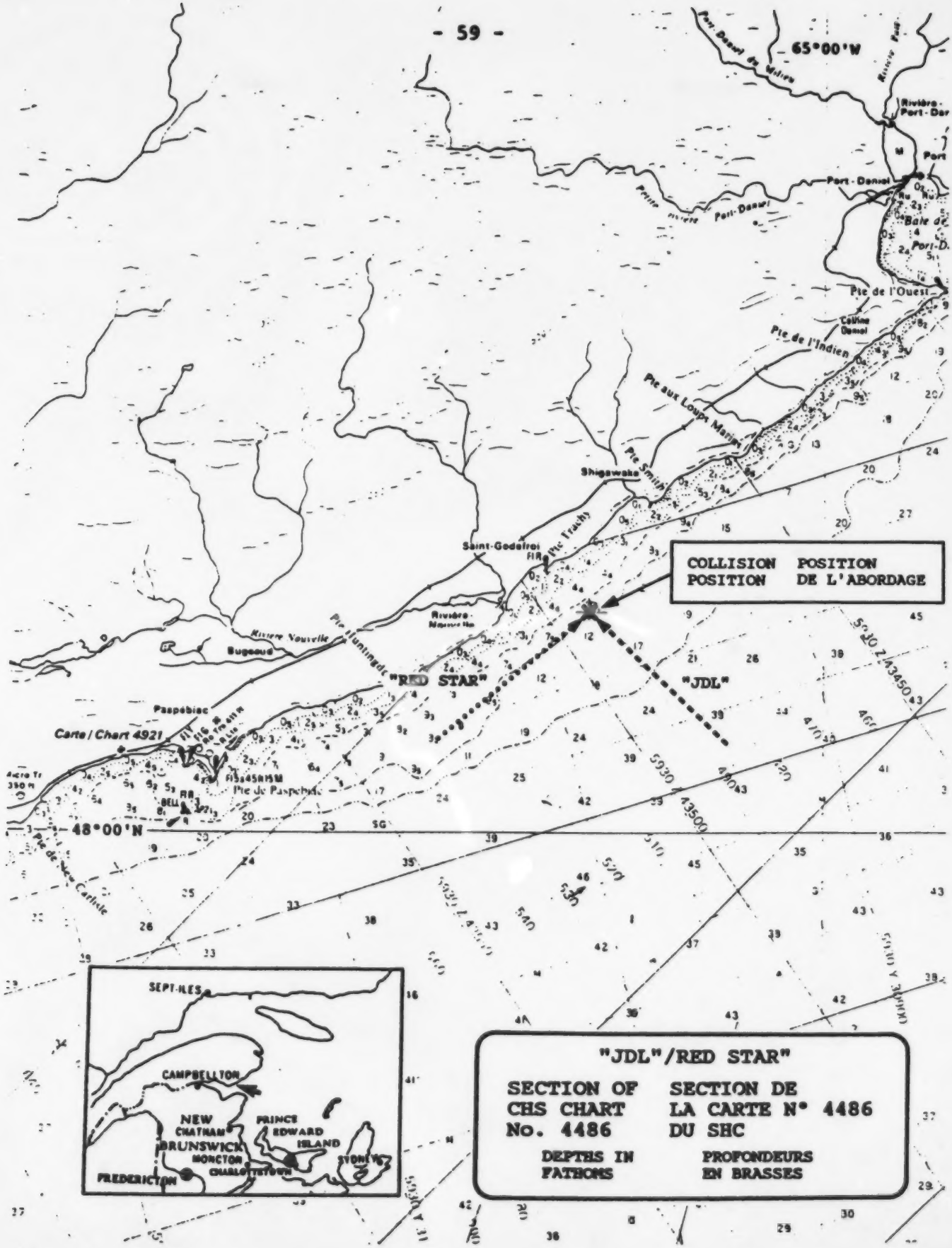
- Both vessel did not maintain a proper look-out; and
- both vessels did not determine that risk of collision existed.

"RED STAR"

- She did not keep out of the way of the "JDL" which was on her starboard side.

"JDL"

- She did not take appropriate action in ample time to avoid collision; and
- she did not use sound signals either to indicate her doubts regarding the intention of the "RED STAR" or when she made the last minute manoeuvre.


65°00'W
COLLISION POSITION
POSITION DE L'ABORDAGE
"RED STAR"
"JDL"
48°00'N
Carte / Chart 4921
Pte de Paspébiac
Pte de Port-Daniel
Pte de l'Ouest
Pte de l'Indien
Pte aux Loups Marins
Pte Shigawake
Pte Saint-Godefroi
Pte Tracadigash
Pte Bonaventure
Pte de New Carlisle
Bugeaud
Paspébiac
Port-Daniel
Shigawake
Saint-Godefroi
SEPT-ILES
CAMPBELLTON
NEW BRUNSWICK
PRINCE EDWARD ISLAND
MONCTON
CHARLOTTETOWN
STONEY'S
FREDERICTON
"JDL"/RED STAR"
SECTION OF CHS CHART No. 4486
SECTION DE LA CARTE N° 4486 DU SHC
DEPTHS IN FATHOMS
PROFONDEURS EN BRASSES

"JDL"

"RED STAR"

"MELISSA DEVIN"

**Explosion and Fire on Board at Terence Bay, N.S.
November 30, 1988.**

Summary

The "MELISSA DEVIN" was a small GRP vessel of 10 licensed gross tons, engaged in lobster fishing and based in Terence Bay, N.S.

At approximately 0620, November 30, 1988, the crew, comprising a father and his two sons, boarded the vessel secured at the Government Wharf and prepared for departure to the fishing grounds. After loading fishing supplies, an odour of gasoline was detected and the engine unintentionally started as the crew searched for the source of a fuel leak.

After running for an estimated 20 to 30 seconds, flame appeared beneath the engine and almost instantaneously an explosion occurred at approximately 0625.

All three of the vessel's crew were injured in the explosion and fire; however, they were able to climb up on the wharf with the assistance of another fisherman.

The local volunteer fire department was alerted to the situation and responded immediately. The first fire-fighting vehicle to arrive on the wharf used a water spray in an effort to control the fire; however, at approximately 0640, other units fitted with foam extinguishing equipment were prepared to assist. At this time, the injured were transported to hospital in Halifax, N.S., for treatment.

The fire was soon under control and extinguished, however, not before considerable damage had occurred to the vessel.

Although the "MELISSA DEVIN" was not insured, the vessel may be considered a constructive total loss, estimated at $50,000.

After treatment in hospital and a convalescence period, all three of the injured crew members recovered fully.

Findings

Although the precise cause of the explosion and fire on board the "MELISSA DEVIN", November 30, 1988, cannot be established, it would appear the following are the most probable factors contributing to the casualty:

- a gasoline leak occurred, probably in the hose connection to the water separator/fuel filter;

- the leaking gasoline vaporized and accumulated in the vessel's bilge;

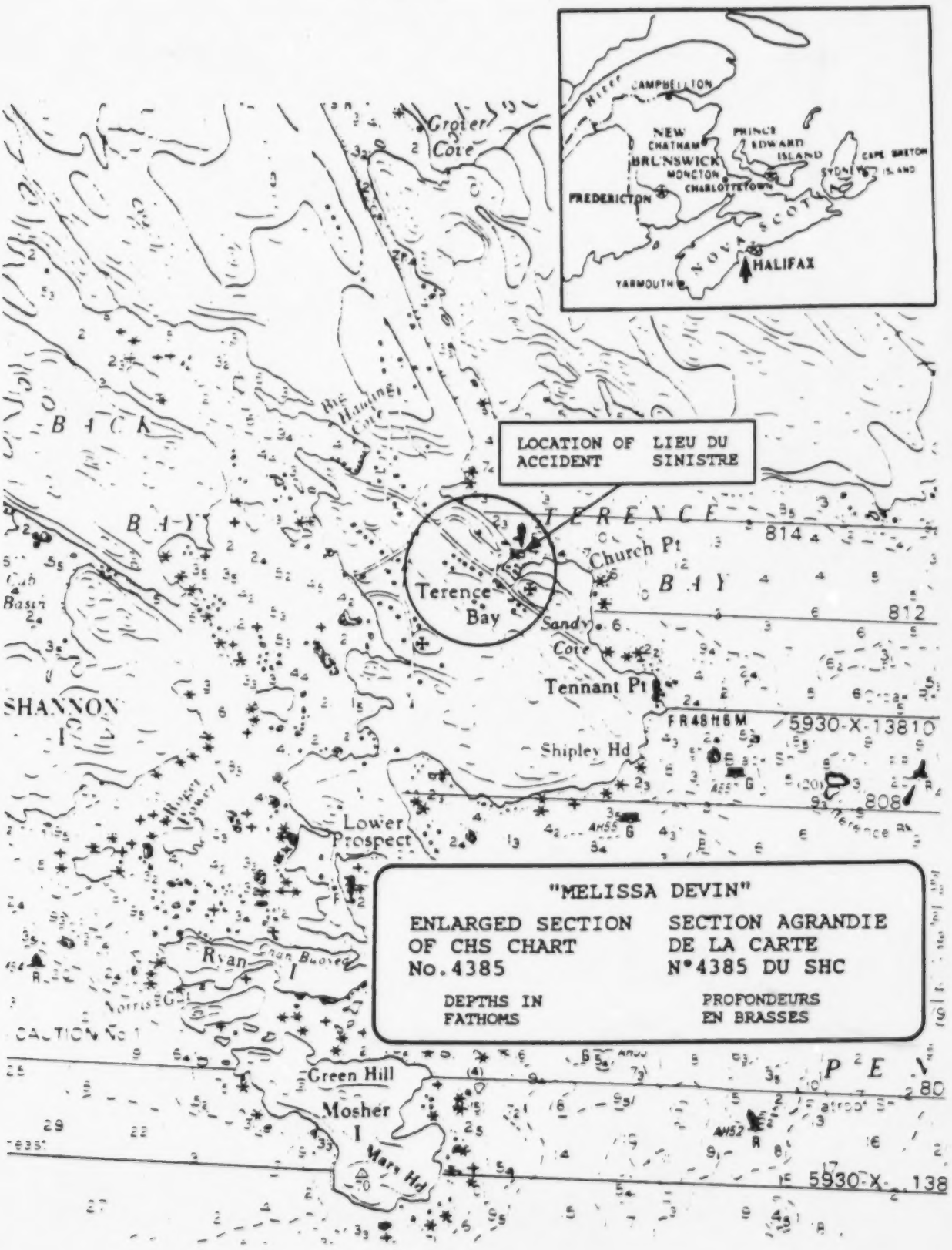
- the explosive vapor was drawn through the alternator when the engine was unintentionally started; and

- the explosive vapor and air mixture was ignited by an electrical arc within the alternator.

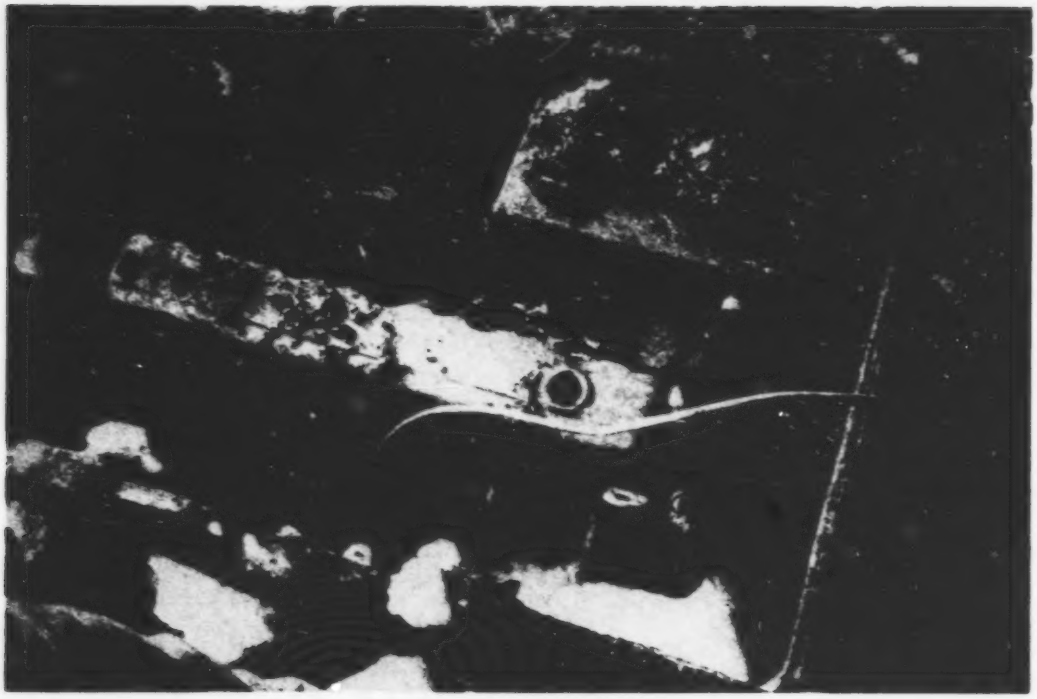
Other Findings

Both the manufacturer and the Canadian Coast Guard Ship Safety Branch do not recommend that P.V.C. reinforced hoses be used as fuel lines for any marine engine.

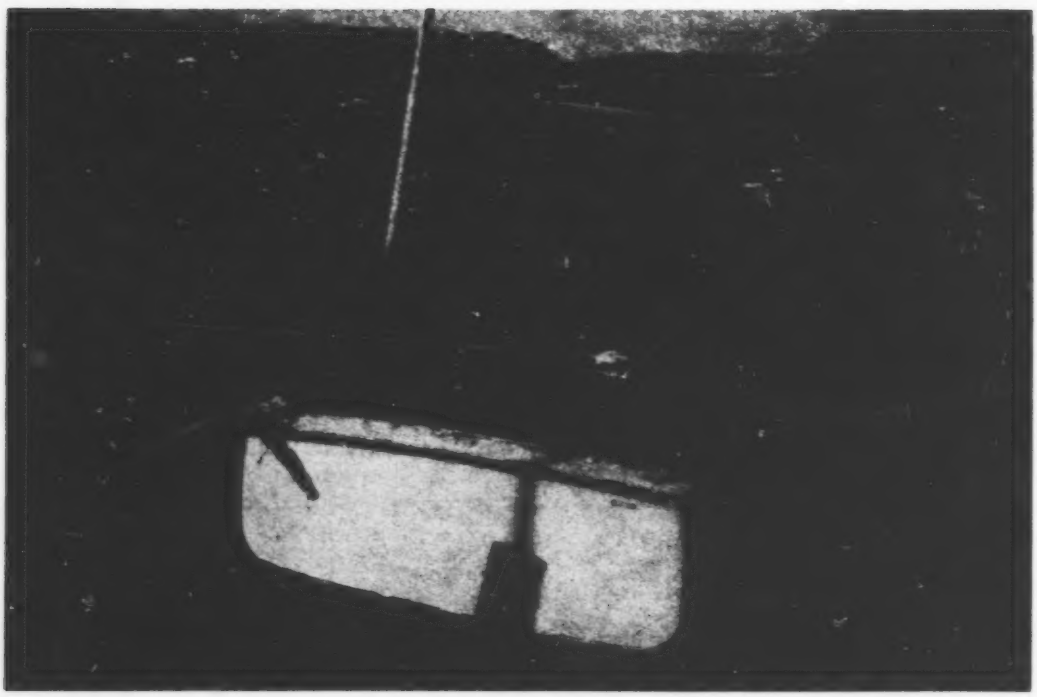
The response by the Terence Bay Volunteer Fire Department was rapid and the action taken effective in extinguishing the blaze.


CAMPBELLTON
NEW BRUNSWICK
MONCTON
CHATHAM
PRINCE EDWARD ISLAND
CAPE BRETON ISLAND
SYDNEY
FREDERICTON
CHARLOTTETOWN
NOVA SCOTIA
HALIFAX
YARMOUTH
LOCATION OF ACCIDENT
LIEU DU SINISTRE
Groier Cove
Big Hawley Cove
BACK BAY
Cab Basin
TERENCE BAY
Terence Bay
Church Pt
Sandy Cove
Tennant Pt
814
812
808
FR 48 M 5930-X-13810
SHANNON
Shipley Hd
Lower Prospect
Ryan I
Green Hill
Mosher I
Mars Hd
5930-X-138
"MELISSA DEVIN"
ENLARGED SECTION OF CHS CHART No.4385
SECTION AGRANDIE DE LA CARTE N°4385 DU SHC
DEPTHS IN FATHOMS
PROFONDEURS EN BRASSES

"MELISSA DEVIN"



View of engine.
Vue du moteur.



View from aft.
Vue de l'arrière.

"MISS SHELEEN"/"C.P.R.D."

Loss of a crew member, Saint John, N.B., March 16, 1989.

Summary

While en route to the scallop fishing grounds in the Bay of Fundy, weather conditions deteriorated and a number of Small Canadian fishing vessels, including the 47 gross ton "C.P.R.D." and the 24 gross ton "MISS SHELEEN", sought refuge in Saint John, N.B. on March 14, 1989. The "C.P.R.D." secured alongside a 1 m wide fender port side to the wharf, the "DEBORAH & RUTH" port side to and outside of the "C.P.R.D.", and the "MISS SHELEEN" port side to the wharf and ahead of the "C.P.R.D.". The harbour swell generated by the storm caused the vessels to roll and heave and the "C.P.R.D." to range (to move along the dock) further away from the vertical wharf lader, which was at the intended boarding position at the gunwale between the shucking house and the transom, to a position abreast of the scallop shucking house; the latter is a wooden structure 2.13 m high which is not provided with safety rails. Only indirect lighting from the vessel lit the ladder. The wharf was damp from mist making underfoot conditions slippery.

At 0300, March 16, a crew member of the "DEBORAH & RUTH" was returning to his vessel from the "C.P.R.D." and while crossing the deck he observed a figure descending the vertical ladder attached to the wharf and attempting to board the "C.P.R.D." via the scallop shucking house roof. Moments later when he heard a cry for help and, realizing the person had fallen overboard between the vessel and wharf, he ran to the side shouting and urging him to hold onto the ladder. His shouts alerted the crews of both vessels who turned out to assist. They were later joined in their search by other vessels and harbour police. The victim's body, a crew member from "MISS SHELEEN", was eventually recovered from a position close to the ladder and on the bottom of the harbour.

A toxicological investigation showed that the victim's alcohol (ethanol) blood concentration was 250 milligrams of alcohol per 100 millilitres of blood, well above the legal limit of 80 milligrams of alcohol per 100 millilitres of blood.

Findings

A crew member of a Canadian fishing vessel "MISS SHELEEN" fell into the harbour while under the influence of alcohol and while attempting to board another Canadian

fishing vessel, the "C.P.R.D.", which was secured alongside a wharf in Saint John Harbour, New Brunswick, resulting in his death by drowning.

It would appear that the accident occurred due to the following contributing causes:

- the vessel was rolling and heaving heavily in the harbour swell while secured alongside a 1 m wide fender at the berth;

- the moorings had not been recently tended which permitted the vessel to range out of her intended position alongside the wharf;

- the safer, and intended, access point abaft the shucking house was not abreast the wharf ladder;

- boarding was attempted from the wharf ladder to the shucking house roof which roof was not provided with safety rails;

- the shucking house roof was damp and possibly slippery;

- the ladder was poorly illuminated by indirect lighting from the vessel;

- the victim attempted to board the "C.P.R.D." of his own volition; and

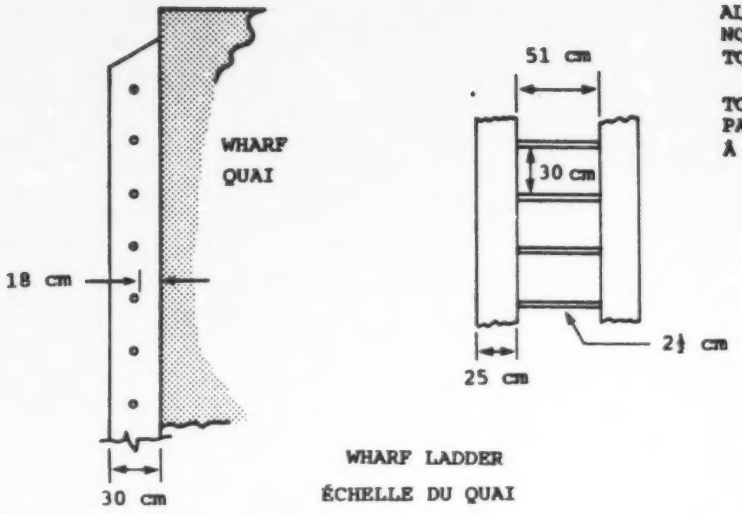
- the consumption of alcohol affected the victim's ability, coordination and appreciation of danger.

Other Findings

The "C.P.R.D." did not hold a valid Steamship Inspection Certificate, however this had no bearing on the circumstances of this accident.

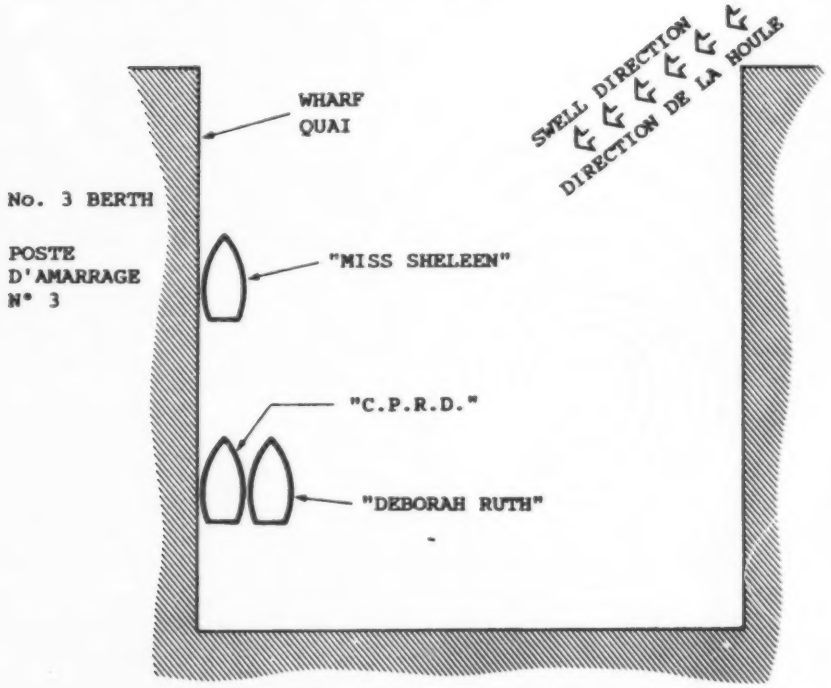
ALL SKETCHES
NOT DRAWN
TO SCALE

TOUS LES CROQUIS
PAS DRESSÉS
À L'ÉCHELLE



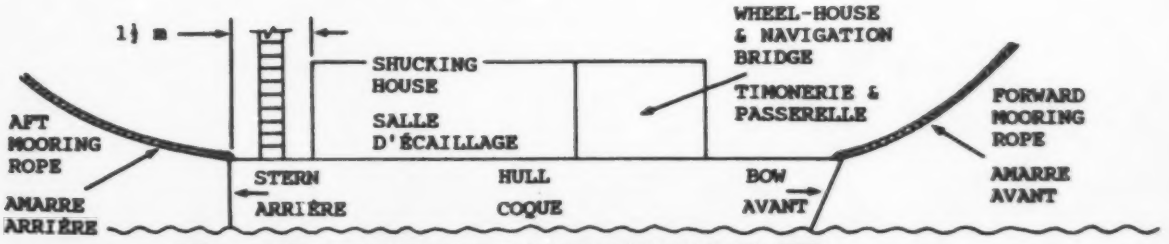
WHARF LADDER

ÉCHELLE DU QUAI



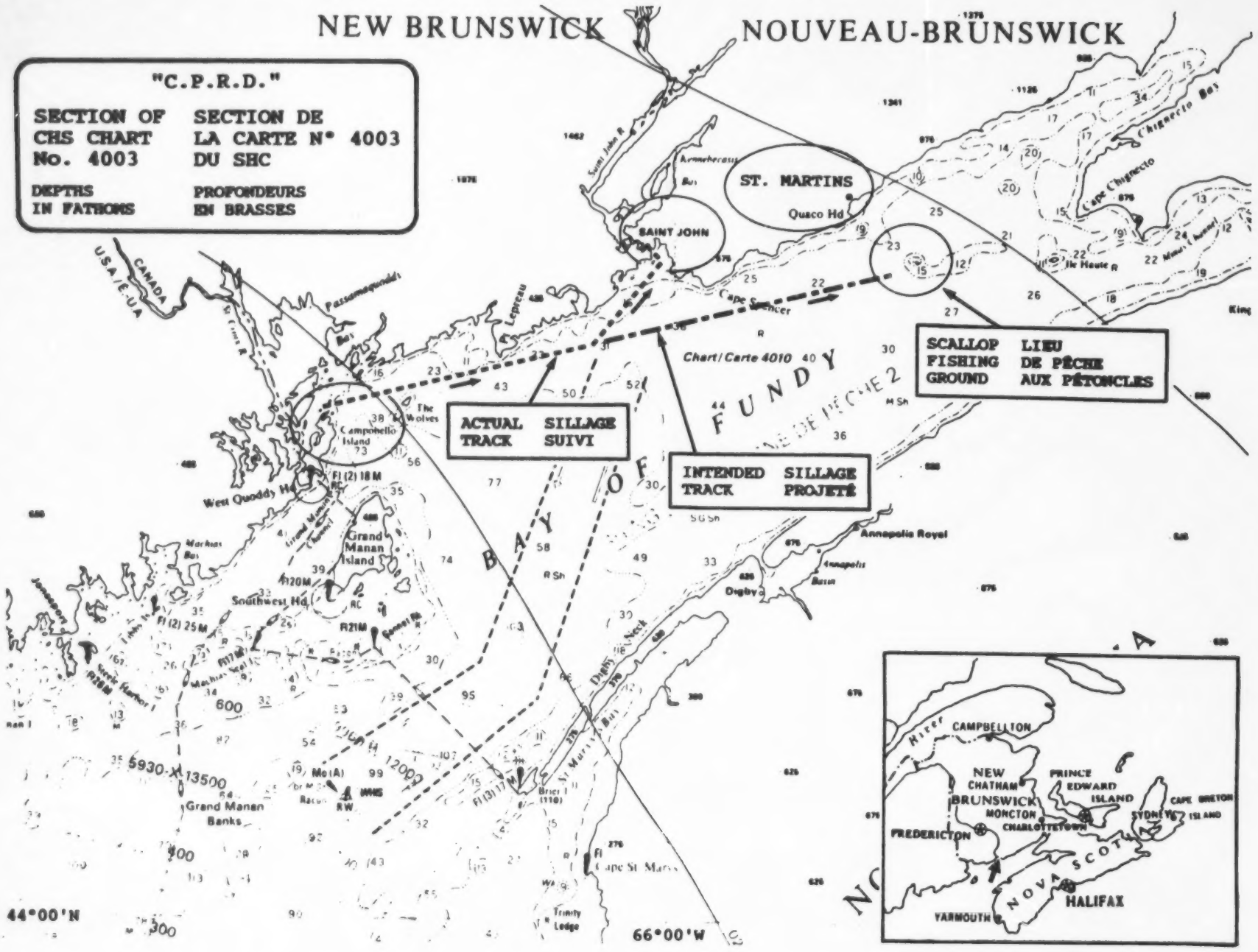
RELATIVE POSITIONS OF VESSELS ALONGSIDE THE WHARF

POSITION DES NAVIRES LE LONG DU QUAI



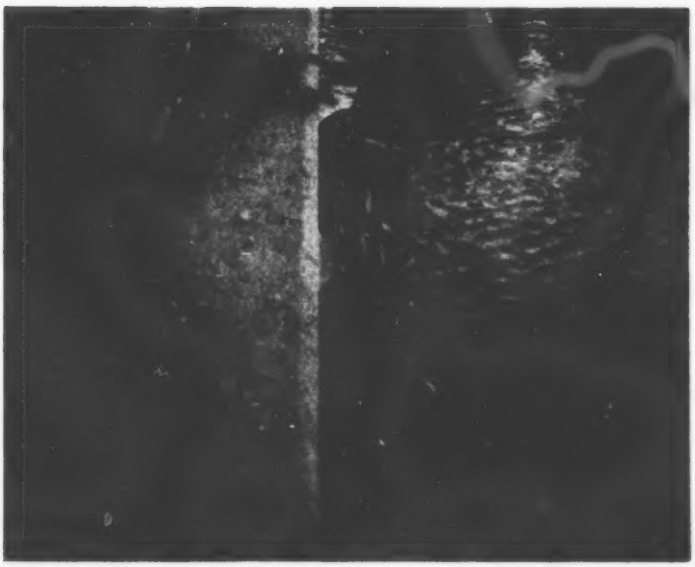
NOTE: THE POSITION OF THE LADDER RELATIVE TO THE SHUCKING HOUSE WHEN THE VESSEL WAS PROPERLY MOORED.

NOTA : POSITION DE L'ÉCHELLE RELATIVEMENT À LA SALLE D'ÉCAILLAGE AU MOMENT OÙ LE BATEAU ÉTAIT AMARRÉ DE MANIÈRE APPROPRIÉE.


NEW BRUNSWICK
NOUVEAU-BRUNSWICK
"C.P.R.D."
SECTION OF CHS CHART No. 4003
SECTION DE LA CARTE N° 4003 DU SHC
DEPTHS IN FATHOMS
PROFONDEURS EN BRASSES
ST. MARTINS
Quaco Hd
SAINT JOHN
Cape Spencer
Chart/Carte 4010
FUNDY
BAY OF
ACTUAL SILLAGE TRACK SUIVI
INTENDED SILLAGE TRACK PROJETÉ
SCALLOP FISHING GROUND
LIEU DE PÊCHE AUX PÉTONCLES
Campobello Island
West Quoddy Hd
Grand Manan Island
Southwest Hd
Grand Manan Banks
Annapolis Royal
Digby
Cape St. Mary
Trinity Ledge
44°00'N
66°00'W
CAMPBELLTON
NEW BRUNSWICK
CHATHAM
MONCTON
PRINCE EDWARD ISLAND
CHARLOTTETOWN
SYDNEY
CAPE BRETON ISLAND
FREDERICTON
NOVA SCOTIA
HALIFAX
YARMOUTH

"C.P.R.D." and "DEBORAH & RUTH" at No. 3 berth,
Saint John, New Brunswick.
Note: Both vessels have been turned and are starboard side to, "C.P.R.D." inboard.

Les bateaux "C.P.R.D." et "DEBORAH & RUTH" au poste d'amarrage N° 3, Saint-Jean (Nouveau-Brunswick).
Nota: Les deux bateaux sont virés et amarrés à l'épaule sur tribord. Le "C.P.R.D." est à l'intérieur.



Fender

Défense

Glossary

CCG	Canadian Coast Guard
CCGC	Canadian Coast Guard Cutter
CCGS	Canadian Coast Guard Ship
CGRS	Coast Guard Radio Station
CMRA	Canadian Marine Rescue Auxiliary
ETA	Estimated time of arrival
Fish Packers	Fishing vessels being used only for transportation of fish
FPV	Fisheries Patrol Vessel
Free surface effect	Whenever there is a surface of liquid which is free to move, there is a loss of effective GM due to a virtual rise of the vessel's centre of gravity and the loss of stability caused by the movement of liquid in partially filled compartments when the vessel rolls. This movement may involve a large shift of weight.
Freeboard	The distance between the waterline and the upper edge of the weather deck.
FV	Fishing Vessel
GM	The distance between the transverse metacentre and the vertical centre of gravity, and is an indication of a vessel's ability to right herself when heeled over.
M	Magnetic
Mayday	Distress signal
MEDEVAC	The urgent evacuation of a person from a vessel for medical reasons
MRSC	Marine Rescue Sub-Centre

Port of refuge	A reasonably safe place of retreat from winds or storms
r.p.m.	Revolutions per minute
RCC	Rescue Co-ordination Centre
SAR	Search and Rescue
SFV	Small fishing vessel
SIC	Steamship Inspection Certificate
SSB	Single sideband radio
T	True
Trim	The difference between the draught forward and aft
VHF	Very high frequency radio